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STORAGE

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CONTENTS.

PAGE.
Connection of Cardiac and Renal Disease 721
Michigan State Board of Health 735
University Hospital 737
Pathology 745
Eucalyptol 748
Baltimore Academy of Medicine.—Session 1880-81 754
Whitlow 758
Treatment of Typhoid Fever in Children 760
Malarial Organisms 763
High Amplifications 765
Highest Magnifying Powers* 767
Origin of Homogeneous Immersion 768
Gleanings 770
Book Notices 774
Editorial 782

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THE
CINCINNATI MEDICAL NEWS.

VOL. XIV. No. 167. Old Series. NOVEMBER, 1881. VOL. X. No. 11. New Series.

ORIGINAL CONTRIBUTIONS.

Connection of Cardiac and Renal Disease.*

BY ROBERT T. EDES, M. D.

THE connection of cardiac and renal disease has almost from the beginning of the more accurate knowledge of the latter been a very interesting theme of speculation, and of late years the subject of some theories very important as to etiology and diagnosis.

Some of these, which, although undoubtedly expressing much truth, have been pushed farther than the facts will warrant, I have ventured to criticise, partly in the light of literature, and partly in that of my own experience and observation. Hypertrophy of the heart without valvular lesion was, at a very early period, recognized by Dr. Bright himself as a frequent accompaniment of the renal disease afterward known by his name. And not only this; he had already perceived that it was much the more common in that form now generally known as contracted, granular, or cirrhotic kidney, or interstitial nephritis, although he placed a different interpretation upon the coincidence from that now generally received. "It is observed," he says, "that hypertrophy of the heart seems in some degree to have kept pace with the advance of the disease in the kidneys; for in the majority of cases, where the muscular power of the heart was increased, the hardness and contraction of the kidneys bespoke the probability of a long continuance of the disease. Six cases are noted in which the heart was soft and flaccid, and four in which it was unusually small, and in most of these, though not in all, the disease of the kidneys had not proceeded to the stage of contraction and hardness."

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*Read before the Boston Society for Medical Improvement, May 9, 1881.

As knowledge of renal pathology increased, it was perceived that this statement of Dr. Bright applied not to stages but to kinds of degeneration, and at present it is generally admitted that although we may occasionally find a hypertrophied heart associated with a "large white" kidney, or a contracted kidney with a heart not enlarged, yet the connection between the thickening of the heart muscle and the increase of connective tissue in the kidney is a very constant one.

Dr. Bright supposed the hypertrophy to be a sequence of the renal disease, and suggested two explanations. The first, which he favored himself, assumed, like one set of the more modern theories, an increased resistance to the passage of blood through the capillaries, and hence increased work for the heart and increase of its muscular power. The resistance to the blood was due to altered chemical relations with the capillary walls, brought about by a failure of the kidneys to remove excrementitious products. The second explanation was the directly irritant action of this same vitiated blood upon the heart itself.

The first theory, which certainly had much plausibility so long as the contracted kidney was regarded as the latest stage of the "large white," or mottled, falls of itself to the ground when we find that the hypertrophy is associated *almost* exclusively with a form of the disease which, so far as we can judge from the symptoms and the analysis of the urine, is attended with no more, and probably even less, difficulties in the way of excretion than the other forms where no hypertrophy is found.

It has been clearly shown that in many cases contracting kidneys, although furnishing a urine in which the *percentage* of urea is decreased, fully make up the deficiency by an increased quantity.

On the other hand, those affections, such as simple atrophy or atrophy with dilatation (hydronephrosis), which arise from disease in the urinary passages, rarely give rise to hypertrophy of the heart.

Experiments have recently been made in which a hypertrophy of the heart was observed to follow removal or functional destruction of one kidney. In young animals the remaining kidney usually increased in size and weight, so as to compensate for the loss; but where this failed to take place, the heart hypertrophied, in order, so the experimenters suppose, to drive the blood more rapidly through it, making up for loss of secreting surface by increased velocity.

We certainly have here some conditions of human pathology not very remotely counterfeited, and yet the experiments do not help us much in accounting for the connection we desire to trace.

The experiments most closely resemble those cases in which atrophy of one kidney is the result of partial or total occlusion of its ureter, in which, however, hypertrophy of the heart seldom occurs.

It is remarked by Senator that persons with renal calculi may be in good health, may eat enough to furnish an abundant supply of urea, and are beside liable to attacks of partial suppression of urine.

Consequently, he says, that next to the forms of chronic nephritis, of all chronic urinary diseases, hypertrophy of the heart develops itself most rapidly in connection with stone in the kidney. After the loss of one kidney, if the nutrition is not interfered with, the development of hypertrophy depends solely upon whether the remaining kidney is able to perform the duties of both.

This compensation on the part of the healthy kidney is, however, usually very complete, as is shown, for instance, in Simon's cases of extirpation of one kidney. In many cases, at least, this is a functional compensation merely, not attended with hypertrophy of the other kidney or of the heart.

A case where nearly total destruction of one kidney was produced, not by a calculus, but by constriction of its ureter in its passage through the base of the bladder, was reported here by the chairman some weeks ago. The remaining kidney was not noticeably enlarged, nor was the heart.

It might, however, be fairly objected that in this case the condition of the patient's nutrition was such as to forbid anything like hypertrophy.

A case which corresponds more nearly to the experimental conditions was the following:

A middle-aged lady, nervous and peculiar for years, died of an acute, probably pyemic, attack, originating in an inflamed ovary. The left ureter was impervious, and the left kidney, filled with a putty-like mass, had evidently been for a long time useless. The right kidney was rather large, with somewhat granular epithelium, but was not decidedly hypertrophied. The heart was not hypertrophied.

Both Grutzner and Litten found injection of urea into the blood to raise the pressure, but the latter was unable to produce any hypertrophy of the heart by a daily repetition of the process. In these experiments, however, the kidneys were intact, and it has been very properly remarked that the retention of so diffusible a substance as urea, when the kidneys are healthy and excreting a full amount of water, is highly improbable.

In parenchymatous nephritis, however, these conditions do not hold, and hence it is possible or even probable that in those few cases of this form of disease in which hypertrophy is observed, it is traceable to the retention of urinary constituents, of which urea is the chief but perhaps not the only important one. Senator applies exactly the theory of Bright to a small minority of cases.

These observations, however, do not go far toward establishing this theory in *interstitial* nephritis, where the hypertrophy is the rule and not the exception; for although we have the two ends of the chain, hypertrophy of the heart and loss of secreting substance, the same or similar in the two sets of cases, the connecting link, accumulation from non-excretion of urea and other products, is not only not demonstrated, but can, in many cases, probably long after hypertrophy is developed, be proved to be absent.

Ewald, indeed, who adopts the theory of Bright for all cases of hypertrophy, speaks of a higher percentage of urea being found in the blood in interstitial nephritis than in parenchymatous or in other diseases, but this can certainly have been true only in the latter stages. Bartels has shown very clearly that the polyuria fully makes up for a deficient percentage of urea, and also speaks of many cases where it could not be obtained from the blood, although all of his analyses were made toward the last of the disease.

The theory of Traube was mechanical. He supposed that the resistance by which the tension, and consequently the work, of the heart was increased, was due to a dimin ished capillary area in the kidneys. Aside from the improbability that obstruction of only two, and those not the largest, branches of the abdominal aorta would so permanently raise the pressure as to give rise to cardiac hypertrophy, it is doubtful if any great hindrance exists to the flow of blood even through a considerably contracted kidney. The greatly increased flow of light urine shows that the circulation must be going on without marked hindrance. Buhl has shown the development of a collateral circulation, both in the kidney itself and in the capsule and surrounding tissues, to compensate for the atrophy gradually taking place in the interlobular arteries and Malpighian corpuscles. The explanation of Traube is generally recognized as insufficient.

Dr. Gull and Dr. Sutton put a new phase upon the question when they showed the existence of thickening in the arterioles, not of the kidney alone, but throughout the body. This thickening might undoubtedly be a sufficient cause for cardiac hypertrophy, but the proportion of cases in which the renal and cardiac disease coincide, without any disease of the arteries, is, although not very great, too large to be overlooked, and it is by no means certain that in many others the arterial disease precedes that of the heart.

Dr. George Johnson had previously called attention to the thickened muscular coat of the small arteries in the kidneys, a hypertrophy which he referred to a stop-cock action on their part, checking the access of diseased blood to the tissues. He held the changes afterward observed by Gull and Sutton to be the results of the method of preparation, but several observers have confirmed their views so far as the existence of a general arterial disease is concerned. Its intimate connection with interstitial nephritis, however, is not so generally admitted, and it is pointed out by Ewald that the disease found in the small vessels of the kidneys is not the same.

The change somewhat vaguely described by Gull and Sutton as arterio-capillary fibrosis is considered by later writers as endarteritis of the smallest arteries.

Somewhat connected with these observations, but having rather a clinical than a pathological interest, are the views of Mahomed. If correctly representing the facts they are of the highest practical importance, and even if somewhat exaggerated, as I think they are, they are deserving of careful study for purposes of prognosis or prophylaxis.

They consist chiefly in the recognition of the pulse of high tension, which has been long observed as a frequent concomitant, as the essential and earliest symptom in what he calls Bright's disease. The significance of the name, however, he greatly changes, both in the way of omission and addition; for while he excludes those forms of renal disease in which the epithelium is chiefly affected and shrinking has not taken place, forms which were certainly described and figured by Dr. Bright, on the other hand he talks of cases of *Bright's* disease in which the *renal* lesion does not exist. The propriety of such a very forced change in the generally accepted and, as it seems to me, natural application of the name, is more than doubtful.

What Dr. Bright described and figured ought to be Bright's disease. If Mahomed has been successful in establishing the existence of a well-marked clinical and pathological group, in which some cases of renal disease and some other cases in which renal disease does *not* exist are both included, it ought to be called by the name not of Bright, but of Mahomed, just as some of the Germans have christened the arterio-capillary fibrosis, which may or may not be connected with nephritis, Gull-Sutton's disease.

According to Mahomed, this increased arterial tension, which is most easily and certainly recognized by the sphygmograph, is due to increased resistance to the passage of poisoned blood through the capillaries, the poison being generated by scarlatina, pregnancy, lead, alcohol, gout, and "other well-known causes of Bright's disease," among which he would probably include cold and dampness. Hence hypertrophy of the heart.

This view differs from that one of Dr. Bright's alternatives which we have already discussed in the sequence of phenomena. According to Bright it was—renal disease, poisoning of blood from imperfect depuration, increased resistance, hypertrophy of heart.

According to Mahomed we have *first* the blood poisoning and obstruction, and afterward increased tension, hypertrophy of the heart, and arterial and renal disease.

Another explanation is closely allied to the second alternative of Dr. Bright, though with a similar reversal of cause and effect.

It is that offered by Debove and Letulle in Paris, and Buhl in Munich.

According to this, a myocarditis coexisting with, but not dependent directly upon, the renal lesion gives rise to the hypertrophy and finally to arterial changes.

Debove and Letulle speak of this interstitial myocarditis, the increase of connective tissue in the heart, as demonstrable chiefly in the papillary muscles, but frequently to be found in other parts of the heart by hardening and thin sections.

Buhl relies rather on marks of old endocarditis and pericarditis, not affecting the valvular integrity of the organ, to prove the probable former existence of muscular inflammation.

This leads in the first place to simple dilatation, but afterward, partly by the increased nutritive activity which usually follows inflammation, but still more by the disproportion which is thus made to exist between the capacity of the dilated ventricle and the diameter of the undilated aortic orifice, to the greater or less degree of hypertrophy. The labor of the ventricle, and consequently the tendency to hypertrophy, is increased, according to Buhl, though I confess I can not see why, by the anæmia so constantly present.

The statements of Debove and Letulle as to the frequent occurrence of interstitial myocarditis have hardly excited as yet attention enough to be fully tested in the way which they demand. A mere naked-eye inspection of the heart without preparation is not sufficient to disprove the existence of this lesion, and the silence of autopsy records, even minute and careful ones, where myocarditis has not been specially looked for, can therefore count for but little as evidence.

It is fair to suppose, however, that a case reported in Paris during the year in which these observers published some of their results was subjected to sufficient scrutiny to make the statement of "no cirrhosis" of the heart of some value. Such a case was reported by Barie and Du Castel, in the *Progres medical* (1879, page 467). It was a typical case of interstitial nephritis, with the *bruit de galop*, uræmia, anæmia, and Cheyne-Stokes respiration, the granular kidneys weighing 115 and 150 grammes, with arteries thickened and stiff. The heart weighed 810 grammes (27 ounces), and it is expressly stated that there was no fatty degeneration or cirrhosis.

The view of Buhl, who seeks to prove myocarditis, not by a remaining hypertrophy of fibrous tissue, but by traces of superficial inflammation, can not very easily be either accepted or rejected. He himself admits that even these traces are absent in twenty per cent. out of the ninety-two per cent. in which hypertrophy of the heart is found.

The very frequent occurrence of arterial and cardiac disease, beside hypertrophy, is a fact not generally overlooked, but possibly not estimated at its real importance. Of fifty-eight cases of interstitial nephritis of which I have notes, in forty-six hypertrophy of the heart was present, and of these twenty were noted as having some other cardiac or vascular lesion—in the majority of cases atheroma.

I do not in the least believe that this last figure at all represents the actual number of cases in which slighter lesions were present, but were not noted. It seems to me a rare thing, though I can not speak by the book, to find a case of cirrhotic kidney with hypertrophy of the heart in which no other lesion evident to the naked eye is present.

Buhl describes the hypertrophy of the heart as usually beginning in a definite attack of subacute carditis, which may last six or eight weeks, or even one-fourth or one-half of a year. It is as impossible to deny that this may take place as to affirm that it always does. The symptoms of myocarditis are so obscure that if it occur uncomplicated with either peri- or endo-carditis, it may perfectly well fail of recognition, or even of giving rise to a train of symptoms which the most minute inquiry afterward can show to be at all characteristic. Buhl does not intimate upon what clinical basis this statement is founded.

Another possible link between the two affections may be found in certain nervous lesions recently described.

Da Costa and Longstreth have found in many cases of renal disease, and especially with the contracting kidney, that a fibroid thickening with atrophy of cells is present in the renal ganglia. Banti, without knowledge of Da Costa and Longstreth's observations, has fully confirmed their data.

Thoma has pointed out alterations of the nervous ganglia in valvular disease of the heart: in slighter cases hyperæmia and "granulating" inflammation, in older ones interstitial inflammation and increase of connective tissue, with fatty and pigmentary degeneration of cells.

Mahomed admits that the increased tension which, according to his theory, is at the bottom of the cardio-vascular changes, may in many cases be of nervous origin; and Dr. Clifford Allbutt has pointed out the frequency of mental strain and depression as a cause of granular atrophy. The existence of high tension in several nervous affections will be noted in some of the sphygmograms exhibited.

Pathological anatomy alone can hardly decide which of these theories, if any, most correctly explains the facts. The coincidence of renal, cardiac and arterial disease in the later stages being admitted, much must depend upon the time at which they are severally developed, or rather at which they can be shown to exist; and this, except in the few accidental cases of death at early periods of the disease, is a matter for clinical observation.

Mahomed's theory depends largely upon his observations of the pulse by means of the sphygmograph; and I have ventured to compare with his conclusions, which have been very distinctly expressed and carefully recorded, some of my own observations upon the pulse of Bright's disease and that in some other affections, as well as variations of a presumably healthy pulse.

Dr. Mahomed says, "The pulse tracing of each individual in health possesses a constant form dependent chiefly upon the constitution and general habits; it may be hard or soft, large or small, good or bad tone, excitable or phlegmatic, and is as characteristic as the tone of voice or mode of carriage, but in disease the pulse loses this individual form, and varies with the general conditions."

This may be true within certain limits and in regard to certain points, but in regard to the tension, which is the point upon which he lays chief stress in the diagnosis of Bright's disease, it does not correspond with my observations, chiefly upon my own pulse. This varies greatly from time to time, from certain reasons, some of which only are known to me.

Exercise produces a decided and great fall of tension. So does in a less degree a full meal. On the other hand, rest or quiet raises it; and the same is true, as has already been pointed out by Marey and others, of cold. In my own case, sitting at my writing-table for an hour or two in the evening, especially if the room becomes a little chilly, gives a tracing of high tension with tolerably strong action of the heart. I have found the same condition after reading in bed for an hour, especially, I recollect, on one occasion, when my feet did not get warm for the whole time. A cold bath sends the tension rapidly up, but if the reaction take place fully, this condition lasts but a short time.

I have sometimes thought that possibly a diurnal variation might be made out, the tension being lower during the forenoon and middle of the day, and higher in the evening, night, and early morning.

These periods would not be very far from corresponding with the diurnal periods of high and low body temperature, but it would not be easy to separate such a fluctuation from the effects of exercise, food, and external temperature.

The two propositions of Mahomed, which are most strictly of a clinical character, most accessible to criticism, and in fact, really constitute the foundation of his theory, are as follows:

"High tension may exist without renal disease, though rarely.

"Renal disease may exist without high tension, but also rarely."

If it can be shown that these exceptions are very far from being rare, it seems to me that the practical importance of the frequent coincidence of high tension and *renal* disease is greatly diminished, whatever we may think of the importance of the new disease set up in place of the old.

It is obviously necessary to establish some sort of standard as to what shall be called high or too high tension, as indicated by the sphygmograph. Certain arbitrary rules as to the measurement of the tracing can not be too strictly applied, and would often, without some allowance, lead to error; for the form varies more or less with the construction of the instrument, more especially the stiffness of the spring which receives the first impulse of the artery, and also with the pressure brought to bear. The tracings which I have taken mostly differ from those of Mahomed in their lesser height, but exhibit all the points usually brought out by any instrument. They resemble in their degree of amplification more those of Marey than of Mahomed. The prolongation of the tidal wave, the height of the aortic notch, and the development of dicrotism can, however, all be studied upon them, and I think they can, with a little care, be very fairly compared with those of Mahomed. The pressure I have never taken the trouble to record, because, first, I have usually varied it enough to be sure that I was getting the best tracing; and secondly, because the pressure marked on Pond's instrument does not indicate the pressure brought to bear on the *artery*, but only on adjacent tissues, such as the tendon of the flexor carpi radialis and the radius itself, to say nothing of skin and fascia.

Tracings taken from presumably healthy persons vary within quite wide limits as to tension. In every group of such persons of whom I have tracings, I find several with marks supposed to indicate a tension higher than the average or higher than normal. Some are not easily to be distinguished from those taken in chronic nephritis.

Among twenty medical students and ten or a dozen physicians of various ages, all presumably in good health, may be found quite a number of tracings with the prolongation of the summit, which is supposed to indicate the slower forcing of the blood into the arteries against a high pressure, and in some the elevation of the aortic notch and flattening of the dicrotic wave, which indicate a tense condition of the arterial walls.

Of some twenty or more patients at the Adams Nervine Asylum, mostly young or middle-aged women, in none of whom was any renal disease detected, nearly every one showed similar characteristics. These I do not speak of as healthy, but simply as non-renal and non-cardiac.

Two professional men, aged about sixty and sixty-five, whose tracings, taken nearly two years ago, showed such marks of high tension, that, having formed my opinion rather from reading than from my own observation, I took special pains not to point out their supposed meaning, are still actively engaged in laborious practices, certainly retain unimpaired cheerfulness and excellent appetites, and, so far as one can judge without impertinent inquiries, are not in the least troubled with any symptoms of renal derangement. Of my own pulse I have already spoken.

An upholder of Mahomed's theory would probably remark upon these observations that what I have taken to be the pulse of high tension is not really so, or rather is not *high enough* to have diagnostic importance.

My reply would be: I am aware that in these cases we have not the marks of *extreme* high tension, but that it is fair to make use of them in criticising Mahomed's theory may be shown by a comparison of the tracings actually given by him as characteristic with those I shall exhibit. I think that upon the basis of his tracings as well as my own we may make four classes:

(1.) Extreme high tension, found chiefly in acute nephritis, sometimes in chronic, in some doubtful cases. (In angina pectoris?)

(2.) Moderately high tension, found in chronic nephritis, in many nervous diseases, in pregnancy, often in health.

(3.) Moderately low tension, found in many diseases, but chiefly in health.

(4.) Very low tension, in debility, in fever, soon after vigorous exercise, after nitrite of amyl.

The tracings given by Mahomed, are nearly all of a very moderate tension with the exception of those from acute cases. We frequently miss, even in those selected to prove the correctness of his views, the prolongation of the tidal wave, as well as the high position of the aortic notch, and the more or less complete suppression of dicrotism. It is of course higher in some than in others, but in none does it present the extreme characteristics observable in acute cases.

The traces from cases of scarlatinal nephritis or, perhaps, scarlet fever, I can parallel from acute non-scarlatinal nephritis, and these are, undoubtedly, of high tension, the *pulsus tardus et durus*, but with the improvement in the symptoms, or rather as their acuteness progresses, either toward recovery or toward a chronic stage, this high tension subsides, as is seen both in Mahomed's tracings and in cases of my own.

In the chronic cases, even the most typical, of interstitial nephritis, those in which we should expect the most pronounced high pressure, we find it only to an extent which can easily be paralleled, not, as Mahomed says, "rarely," but in various nervous diseases, including simple neurasthenia (*sit venia verbo*), and often in what, unless symptoms are very latent and remain so for years, we can not help calling excellent health. This, however, it is fair to say, is admitted by Mahomed himself.

It is true that a pulse of somewhat high tension is exceedingly common in chronic renal inflammation, possibly almost constant, except when certain special conditions, notably great debility or marked fever, are present, as we see in that very frequent combination of phthisis and nephritis, or, as will be noticed in the sphygmograms from H. C. W., in intercurrent gouty attacks; but the position of Mahomed, that the "signs of high tension or overfullness of the arteries are the *only pathognomonic signs of chronic Bright's disease*," is absolutely untenable. If he means *extreme* high tension, we find it chiefly in the *acute cases*, those in which the diagnosis is easiest and the prognosis most favorable; if *moderately* high tension, we find it too often elsewhere to be pathognomonic of anything. Suspicious is the strongest word which can properly be applied to it.

This may, perhaps, be as well shown by many various tracings as by any extended description. I have placed, first, well-marked cases of nephritis, the basis of the diagnosis being in brief; next, the doubtful; and, next, a number of other cases in which nearly the same condition of high tension is found, and in which the disease was of an entirely different character, Three cases of acute nephritis close the list.

I do not wish to deny to this symptom all value either in diagnosis or prognosis, but I think that Mahomed has been led to overestimate it by his too exclusive consideration of acute nephritis, in which the maximum of high tension is found, and its subsequent passage in the chronic stage, and that in tracing a necessary connection between various other conditions of ill health, in which a moderately but still too high tension is found, and the fully developed granular kidney, he is going far beyond a sound basis of clinical observation.

Of course, he can, if he chooses, define Bright's disease as that condition in which too high arterial tension is found, and we shall then have no difficulty in admitting that high tension is pathognomonic of it; but such a disease, whatever its name, would coincide only here and there, and not of necessity, with the affection described by Dr. Bright, and recognized under this name as a well-marked clinical type by the profession generally.

Acute nephritis, beginning with high tension, may undoubtedly often be traced directly into subacute or chronic nephritis, but that all other affections, as, for instance, some of a dyspeptic character, which are attended by a similar condition of the pulse, must necessarily lead to the same result, is a very arbitrary assumption.

Mahomed allows so long a time for the development of the disease foreshadowed by the presence of high tension, that the disproof of his theory is as difficult as he admits the proof to be. If, however, the persistent high tension is the cause of the cardio-vascular changes, of which hypertrophy of the heart is certainly one of the most common and most prominent, this hypertrophy *should* be developed at a very early period. But Mahomed admits that it requires years, often many years, to produce in the dyspeptic and suspicious or the apparently healthy cases, which, on account of their pulse, he supposes *will* develop into Bright's disease, a hypertrophy of the heart and disease of the vessels. And yet in cases where nephritis is present it develops much more rapidly than this.

Traube states that he has seen hypertrophy distinctly developed in four weeks after the beginning of an acute nephritis. It would certainly seem then that a functional high tension, not originating in disease of the heart or vessels, can not be either the connecting link between or the common cause of the renal and the cardiac disease.

It is easier to criticise than to construct, and I have no new theory to propose in place of those which seem to me insufficient.

We can not help seeing, however, the facts to which it is the merit of Johnson, of Gull and Sutton, and of Mahomed to have drawn our attention, that the form of Bright's disease attended with interstitial nephritis is more than renal, and that the cardiac and vascular changes may occupy the foreground of the clinical picture. We must also observe how often organic disease, more or less marked, occurs in other regions than in the muscles of the heart and in the kidney, the peri and endo-carditis, the pleuritic adhesions, the endarteritis of large and small vessels, diminishing their elasticity, and thus demanding an increased expenditure of force to drive a given amount of blood, the usual coincidence of a similar interstitial hyperplasia in the ganglia connected with the kidney, and possibly its not infrequent occurrence in the nervous centers and their membranes.

We are brought by these facts to admit the existence of a fibro-hyperplastic diathesis, with perhaps no special tendency to particular organs except so far as influenced by their functional activity, but since the heart and vessels among the muscular organs, and the kidneys among the secreting, are more constantly active than any others, most frequently making itself manifest in these, with effects which vary with the different structure of the organs.

Michigan State Board of Health.

Reported for the MEDICAL NEWS.

THE regular quarterly meeting of this Board was held October 11, 1881. An interesting feature was a report by the Secretary relative to work of other State Boards of Health. The Secretary of the Michigan Board desires to continue to receive information from other Boards, by which these reports may be made quarterly.

A report relative to work of local boards of health showed increased activity on the part of local health authorities in the way of isolating those infected with communicable diseases and enforcing the law, requiring from householders and physicians notices of such diseases. In one city a physician had been fined $100 for not reporting cases of diphtheria.

The revised document on the restriction and prevention of scarlet fever was adopted, and ordered published in English, Dutch and German. The consideration of this document involved a discussion of the question of recommending health officers to verify diagnosis of reported cases of diseases dangerous to the public health.

A circular, giving general rules for the prevention of diphtheria, scarlet fever and small-pox, was adopted. Forms were adopted for annual reports by the health officers and clerks of local boards of health, and by regular correspondents of the Board.

Dr. Avery, of Greenville, was requested to visit the overflowed district along the Maple River, in Gratiot County, and report to the Board.

Dr. Lyster, of Detroit, read a paper on syphilis in its relations to the public health. It dealt with the facts of the frequent communication of the contagion of syphilis, by direct and by indirect means, to innocent persons;

also with the serious effects on individuals, and on the offspring of marriages where one of the parents is thus blighted. He believed much might be done toward preventing this loathsome disease by wise legislation, which shall restrict syphilis, and especially by collecting and disseminating among young men and other people facts relating to the nature and dangers of this disease.

Dr. Kellogg read a paper on the Relations of Preventable Sickness to Taxation, showing by the reports of the Board of Correction and Charities, the abstracts of reports of County Superintendents of the poor, the abstracts of statistical information relating to the insane and the deaf, dumb and blind, and the vital statistics reports, that more than 3,000 persons in Michigan are annually dependent on the State for support, to a greater or less extent, in consequence of diseases preventable by the adoption of proper sanitary measures. The cost to the people of the State for the support of these persons is over $40,000 annually, a portion of which is paid by every tax-payer. This is but a small part of the actual loss to the State. The number of deaths from preventable sickness in 1880 (*estimated* from returns by supervisors and assessors) was 4,585. Placing the value to the State of each human being at the low estimate of $1,000, the aggregate loss by deaths from preventable sickness is over $4,500,000. But to this must be added a further loss from sickness which did not terminate fatally. The statistics of the benefit societies of England show that for every person who dies two persons (on the average) are sick throughout the year. This indicates a total annual loss of time from preventable illness on the part of more than 9,000 persons, to which should be added the expense of living, etc., certainly more than $1,000,000. This gives about $5,666,000 as the total loss to this State from diseases generally conceded to be preventable. These figures are regarded as much too small, because of the few diseases included in this estimate as preventable (though it is generally conceded by sanitarians that at least nine-tenths of all ailments may readily be prevented), and because only sickness and deaths directly traceable to preventable causes have been included, while a large amount of sickness and many deaths are indirectly due to these causes. It is probable that preventable sickness might justly be charged with an expense to the State of not less than $10,000,000.

Estimating the loss in other States in the same ratio to the population, the aggregate loss to the whole United States is not less than $300,000,000 annually, an amount which would pay the national debt in six years.

Mr. Parker, of Flint, presented a report of the Public Health Section of the American Social Science Association, of Saratoga.

The Committee on Sanitary Survey of the State was requested to prepare schedules for the sanitary survey of cities, villages and townships.

Mr. Parker reported a proposed bill authorizing all boards of education to exclude from school persons infected with diphtheria, scarlet fever or small-pox, or living at houses where any person is infected with one of these diseases.

The Secretary was directed to prepare and issue a weekly bulletin of sickness in Michigan for such papers and medical journals as will publish it.

Dr. Baker was authorized to procure the services of an architect in the preparation of a circular on hospitals for communicable diseases.

Dr. Kellogg reported on the subject of criminal abortion. He and Dr. Hazlewood were requested to prepare a circular designed to collect the facts on this subject.

SELECTIONS.

University Hospital.

Clinical Service of Dr. Wm. Goodell, Professor of Clinical Gynæcology in the University of Pennsylvania.

REPORTED BY WM. H. MORRISON, M. D.

CANCER OF THE NECK AND BODY OF THE WOMB.

GENTLEMEN:—This morning, a lady about fifty-one years of age came to my office and told me that she had reached the climacteric, and yet she found that, after her husband had been with her, a discharge of blood followed, with subsequent hemorrhages. As soon as I heard that statement, I said to myself, "Here is something that the male organ impinges on during intercourse and causes it to bleed."

What could that be? The first thing I thought of was carcinoma, because my experience would lead me to think that at that time of life it would probably be the cause. Another cause might be the presence of a polypus. A third cause might be an exceedingly bad laceration of the cervix. If there were a bad laceration, with eversion of the lips of the cervix, the male organ would hit the lining of the cervix and might cause bleeding, but the bleeding would not be as great as in carcinoma.

When I made the examination, she said to me, "Doctor, I wish you to tell me frankly whether I have a cancer or not; for, if I have, I want to know it." I promised to tell her. After making the examination, I said to her, "This is of the cancer family, but it is not a hard cancer—not that kind which is found in the breast. Those are rarely curable; but these are sometimes curable." If I had not promised to tell her, I should not have used the word cancer, but should have described it as a bad ulceration which was very hard to cure. Cancer is an ugly word to say to a woman; it is signing her death warrant. Women often say to me, "Now, doctor, if you find a cancer, don't tell me." As a rule, I never tell a woman that she has cancer, if I can possibly avoid it. When I told that woman that these cancers could sometimes be cured, I told her the truth, for I have cured three cases by treating them in their incipiency; at least, the disease had not returned after five or six years.

Now as to the history of the case before us. She is fifty-one years of age. For the past two years she has had large hemorrhages. Her complexion has been changing. You can not see this very well on the face, as the ether has changed the color somewhat; but you can see it here on the buttocks. The skin is of an ashy hue; but do not be misled by the color, for malaria and large hemorrhages will cause a similar tint. The color is not a pathognomonic sign.

Dr. Baer has examined this woman, and found a cancer inside of the cervix. None of you can make a mistake in these cases of cancer of the uterus. You may mistake something else for a cancer, but you can never mistake a cancer for anything else. When these cases come to you, the disease has in the great majority of cases passed to the stage of ulceration. If the case came under observation before ulceration, I do not know that it could be diagnosed; but the most common malignant disease of this part of the body is epithelioma, and it usually begins with an open sore. I have known an instance where the disease began as a scirrhus; but this is rare.

There are two forms of epithelial cancer which attack the neck of the womb—the vegetating and the excavating. The former is known as the cauliflower excrescence, and is not found so frequently as the latter.

This is a case of the excavating form. I find a pit filled with granulations which are friable. I often compare this to the crater of a miniature volcano. Around this irregular pit is a hard rim. This womb is movable. Usually, when the case comes to you, exudation, either inflammatory or carcinomatous, has caused fixation of the organ. Simply touching this mass has, as you see, caused bleeding, and frequently there will be profuse hemorrhage. There is no need of the speculum to make the diagnosis of cancer. Do not introduce one, for you will be sure, if the womb is fixed, to have bleeding, and you will be unable to see anything on account of this bleeding.

I propose to scrape away as much as I can of this diseased tissue. This operation has, in my experience, never been followed by any bad results. I once made an opening through the womb into the abdominal cavity; but the woman had no unfavorable symptoms, and at the end of ten days went to her home, some distance in the country.

While at the late meeting of the American Gynæcological Association, held in New York, a friend asked me what I did in these cases of cancer. I told him that I scraped away the diseased tissue, but that I did not use the hot wire, because I had seen serious and even fatal secondary hemorrhage follow its use. A few days ago I received a letter from this gentleman, in which he gave me the history of a case in which he had tried this plan, after getting home from the meeting of the Association. He says, "I went to work and scraped away all of the diseased mass, as you told me. After having done this, I found a little nodule on the posterior surface of the vagina, which I excised with my scissors, and immediately a torrent of blood rushed out, as though I had cut one of the iliac arteries. I used vinegar, but it had not the slightest effect on the bleeding." [I had told him that I used vinegar in controlling the hemorrhage.] "I then used Monsel's solution, without avail. Finally I controlled the hemorrhage by a block of alum placed over the bleeding point and a tampon in the vagina; but the woman died fifteen minutes afterward." The last words of his letter are, "It was rather rough on a fellow, wasn't it?" I do not understand what could have caused that hemorrhage. Possibly he may have cut into an aneurism of the circular artery; but I have never seen the artery so much enlarged, nor have I ever seen a hemorrhage like that in these cases.

In removing this tissue, I generally use the dull curette —Simon's curette, named after Simon, of Heidelberg. I first catch the neck of the womb with the double tenaculum, and ask an assistant to hold it, while I use the curette. I rarely use a speculum in this operation, but direct the curette by a finger in the vagina. The womb measures four inches. I am afraid that the disease has also involved the body of the organ. I am now scraping away the cervix and making a funnel-shaped opening in it. If I had known that I was to operate on this case this morning, I should have brought with me my Paquelin's cautery to cauterize the surface after I have scraped away all that I can. Instead of the thermo-cautery I shall to-day use nitric acid.

As I proceed, I find that the whole cervix and the cavity of the womb is involved, and all that I can hope to do is simply to prolong life and make it more bearable. I can, with the utmost ease, get my finger into the cavity of the womb.

This is a case in which it might be proper to try the removal of the whole womb. This is an operation that I have never performed. It has been so fatal a one that I have not felt warranted in recommending it, and, indeed, I have rarely seen a case in which it could be performed, because of the fixation of the womb to adjacent tissues. If this woman were perfectly willing to have the womb removed, I should not object to removing it *per vaginam.* The removal of the organ through the abdominal wall has been a very fatal operation, the patients, as a rule, dying immediately or a short time after the operation. In this case the vagina is very capacious. The womb could be pulled down and gradually enucleated. Some of the vessels could be tied, while others could be closed by the hot iron.

I once had the day appointed for removing the uterus, but a day or two before the appointed time I discovered a slight œdema, and on examining the urine I found a large quantity of albumen present. I then refused to operate, although implored to do so, both by the lady and her husband. A few days after this she had a uræmic convulsion.

I have now nothing but a shell left. In some places I have gotten through the whole thickness of the cervix. To check the bleeding, I prefer vinegar to Monsel's solution, because the latter forms a hard blood-plaster, which has to decompose and break down before it can be removed.

I shall not make an application of nitric acid, as I intended to do, because the case is one in which nothing can be done; and if there is a return of the disease requiring operation, I shall use the hot iron. I hope that this operation may diminish the discharge and give her more comfort; but when the body of the womb is involved, there is little chance of doing any good.

Here, gentlemen, is a case which comes to us for diagnosis. I have had her put under the influence of ether. She is a girl twenty years of age. She has been very well, with the exception that she now has a little pain, probably in the right side. She eats well, sleeps well, and works well. She is unmarried. Last May she discovered that she had a tumor. At that time it was as large as her fist. Since then it has grown rapidly.

Now, gentlemen, in a case like this—an abdominal tumor in a young unmarried girl—we have to make a very cautious diagnosis. On several occasions I have had sent to me cases of supposed ovarian tumor which have proven to be cases of pregnancy. I once had a young unmarried girl sent to me by an excellent diagnostician as a case of ovarian tumor. The girl came innocently. I examined her, and found that she was pregnant. I had ballottement and the fœtal heart-sounds, and in addition I found milk in the breasts. When I told her what the trouble was, she was perfectly dumfounded. I asked her to tell me frankly if she had not allowed liberties, and she admitted that she had; but she said that nothing could have come from it. I suppose that intercourse had taken place, and that withdrawal had been practiced; but we have instances where impregnation has occurred when the semen has simply fallen on the external organs, some of the spermatozoa entering the vagina.

This girl, I believe, is innocent of any suspicion that she may be pregnant; but that only makes the diagnosis more difficult. She says that she has had her monthlies regularly until the last period, and I believe her. A designing woman may tell you that she has been regular in order to get you to pass the sound and induce an abortion.

I examine the breasts to see if there is any areola or any of the enlarged glands described by Montgomery. I find no marked change. If this is pregnancy, it has reached about the eighth month—the tumor is up to the ensiform cartilage—and we ought to have milk in the breast; but I find none.

Examining the tumor, I find a lump which feels very much like the head of a child; but it may be a cyst. She has also plenty of fat in the abdominal wall. An ovarian tumor usually, but not always, takes away fat in an astonishing manner.

Again, both ovarian tumors and pregnancy are cysts, so that the external evidences will be the same in both. We have dullness over the tumor. In the left flank there is resonance. This would exclude dropsy, for the fluid would gravitate to this region, and we should have dullness on percussion, unless, as might happen, the colon had become adherent to the wall of the abdomen.

I do not know that it would be possible, in the lecture-room, to hear the fœtal heart-sounds even if they were present. I shall try. I hear nothing but the beating of her own heart. Fluctuation is not marked in this tumor. It is not marked in ordinary pregnancy, nor is it marked in polycystic tumors.

I shall now make a vaginal examination. I shall first ascertain if the hymen is present. If it be present, the inference will be very strong that this is not pregnancy; but I once had a case in which I had to cut the hymen during labor. At a late meeting of the Obstetrical Society, I spoke of a case of ectropion and erosion which looked very much like a laceration of the cervix. It occurred in a woman of whom I could not have the faintest suspicion of unchastity, and in whom the hymen was present. A physician present then told me that he had delivered a woman three times, and yet her hymen had never ruptured. I can easily introduce two fingers into this vagina. The cervix is small and unlike the cervix of pregnancy. The next point is, can I venture to pass the sound. These are the cases in which physicians are very commonly making mistakes. The best anatomist that England ever had—John Hunter—tapped a woman who he thought had an ovarian tumor. A few days later, labor set in, and the child was born with the mark of the trocar on its shoulder. So far as my examination goes, I should say that the womb is over on the right side and that it is empty. I am going to pass the sound with the greatest gentleness into the os, and see if it passes in the direction of what I suppose to be the womb. I shall pass it very gently. I have done this on several occasions, and have not ruptured the membranes. I now remove it, and find that it has only passed two inches. I shall try again. There is another thing that would lead me to think that she is not pregnant—that is, the tumor does not present to the vagina. It is with difficulty that I can feel it.

If I can not make a diagnosis, there is only one thing to do—that is, to wait. If it is pregnancy, in a month or two it will all be over; but if it is a cystic tumor, it will develop slowly.

I think that I now have the sound up to the fundus of the womb. The sound shows a measurement of just two inches and a half. I'll try that again. I do not think this is a case of pregnancy, but there are certain symptoms which I do not understand. I am pretty sure that I have the sound up to the fundus of the womb. I move the tumor, but it imparts only a slight motion to the sound. The tumor seems to be not fastened very closely to the womb. I move the sound in all directions, and the womb moves with it. I do not think that the sound is rotating in the cavity of the womb. I tell you candidly, gentlemen, that I do not know what this tumor is. I see nothing to help me to decide as to its nature: it is irregular. Here is a lump, which might possibly be the head of the child, and here is a body, which might represent the shoulders. I have had the sound in the womb, and while I can not declare positively that it reached the fundus, I feel a certain amount of assurance that it did. I am not prepared to make any diagnosis to-day. I shall ask her to return in a couple of weeks, but give her no hint as to my doubts. I shall tell her that we are hopeful that something can be done. You know that there is a way of talking without saying much. We shall also give her, as a placebo, the phosphated mixture of iron, which is not unpleasant to take. When she returns, I shall again examine her.

Before she leaves the room, let me again listen for the heart-sounds. I hear no sound but her own heart.

CANCER OF THE UTERUS AND VAGINA CAUSING VESICO-VACINAL FISTULA.

In this case we have very marked cachexia. The history is as follows: She is forty-one years old. Last spring she had what her physician described as the change of life coming on. What does she mean by that expression? She means that she had bleeding. There is an idea very prevalent, but with little foundation, that women bleed a great deal at the change of life. Bleeding at the menopause may occur in the following way: The woman may miss her periods for two or three months, and then a severe monthly come on; then she may again miss it for several months, and then another large bleeding occur; but this is not the way that the change of life usually occurs. When a woman loses blood every two or three weeks, or for two or three weeks at a time, it is usually caused by carcinoma. The patient who was first before you had lost blood for three weeks. I have not examined this woman at all. She says that she has no pain. You see, gentlemen, how marked is the cachexia. Look at that hand, almost translucent. It seems as though you could look through it. See that little thread-like vein, and here on the forehead we have an artery without any blood in it. We simply see the mark of the artery. The color of the skin is sometimes darker than this: when typical it is of a leaden hue.

Here is a new symptom which I do not fully understand—that is, inability to hold her water. When she coughs, it comes in a gush; at other times it simply dribbles away.

Examining her, I find that she is in an excoriated condition, which I presume is due to the urine. This may be a case in which the disease has made an opening into the bladder. I shall now pass my finger gently into the vagina. I shall not use the sound. I have now discovered what the trouble is, and shall have the patient removed, so that she may not hear what I say.

This is a case in which the cervix has been attacked by the disease, and is completely eaten away. The cancer has eaten up anteriorly and gnawed a hole into the bladder, through which I could pass two fingers. We have here a carcinoma affecting primarily the cervix, and secondarily the vagina, and opening into the bladder, causing a vesico-vaginal fistula. The result of this case can be easily foretold. It is entirely hopeless.

What are the lessons that we have learned to-day? First, that cancer of the neck of the womb is easily diagnosed; and while you may mistake a bad ulceration for cancer, you will never mistake a cancer for anything else. The second lesson is not to use a speculum in examining a case of cancer, for you can gain no information by the eye; the finger will tell you all, and the speculum may cause hemorrhage, requiring the use of the tampon to control it. The third lesson is that in abdominal tumors you will often find it difficult to make a diagnosis, and that you must not in such cases be in a hurry to use the sound; but if the case is urgent, and you must use it, call in some one to back you and share the responsibility. Finally, that if you are not certain as to the diagnosis, wait, if possible, until the period of gestation has passed before expressing an opinion.—*Medical Times.*

Pathology.

DR. SAMUEL WILKES, BEFORE THE INTERNATIONAL MEDICAL CONGRESS.

Then, again, in considering the definition of disease, after having observed how large a number of maladies are produced by the influences of all our ordinary surroundings, we have to recognize those external causes of an extraordinary or specific character which prey upon the human frame, and often bring its machinery to an end. Now, if these causes are obviously parasitic, we are not witnessing so much the case of disease as the spectacle of one animal preying upon another. As regards the parasite, it is pursuing its normal life history, and as regards the patient or the host, he is simply being destroyed; the difference in his mode of death from that which would result from the onslaught of a wild animal would consist merely in time. If a man fall a victim to the bite of a cobra, he is not said to die of disease; but the term is applicable if he dies of glanders. There is this difference, however, in the latter case—the poison is not a natural one even in the infecting animal. If, however, in these infectious diseases the morbific cause be an animal or vegetable organism, although microscopic, then we really have to deal with the operation of one living being acting upon another, and the so-called specific malady exhibits nothing more than the natural course of life of certain specific organisms. The term disease, according to the definition, is here again scarcely applicable.

All these abnormalities of the human organism, under whatever conditions they may arise, suggest that as every branch of biological science is being studied in relation to the lower organizations, and according to the law of evolution, so must pathology become the subject of a large field of inquiry, and be made to embrace the diseases of all animal and vegetable life. The comparison of disease in man and animals may throw much light upon its nature, and it is remarkable that so few persons have been stimulated to the work, by considering the long controversy which has taken place as to the relation between vaccinia and variola, or hydrophobia and rabies. A true human pathology should have its basis in comparative pathology. Here lies a mine of wealth but little worked. As at the present time every structure and function of the human body is being studied in reference to its antecedents in the lower animal, so there can be no doubt that the various morbid changes to which it is liable may be also profitably discussed in reference to similar actions in more simple forms of life. The truth of this has been clearly seen by philosophers who have had no special acquaintance with our department of science. Thus Buckle, in his "History of Civilization in England," says: "The best physiologists distinctly recognize that the basis of their science must include not only the animals below man, but also the entire vegetable kingdom, and that without this commanding survey of the whole realm of organic nature, we can not possibly understand even human physiology, still less general physiology. The pathologists, on the other hand, are so much in arrear, that the diseases of the lower animals rarely form parts of their plan, while the diseases of plants are almost entirely neglected, although it is certain that until all these have been studied, and some steps taken to generalize them, every pathological condition will be eminently empirical, on account of the narrowness of the field from which it is collected." This is almost as true now as when written several years ago, but we are pleased to think that our countryman, Sir James Paget, has already removed this slur upon our scientific procedure by his lecture on "Elemental Pathology," in which he shows the importance of observing the resemblances between the changes in the various tissues of man and the vegetable world, and also the deductions to be drawn therefrom.

Again, if the specific diseases be due to organism, and the hypothetical *contagium vivum* be a reality, it must be subject to the same laws as other organic matter; and if the doctrine of evolution be true, it must have numerous relations with families of its own kind, and perhaps with others which are now obsolete. This idea has occupied the minds of several medical men in this country, and it will no doubt further fructify in their hands.*

A highly contagious disease prevailing in a particular locality may be exhibiting the differentiation of some more simple, less virulent, and widely-spread disorder. For example, a slightly contagious epidemic sore throat might in course of time develop into a more virulent one, until it culminated in diphtheria; and if this disease be due to an organism, the latter might have found a more genial soil for its development, or be altered by propagation and time, so that new properties might at last have been added to it. There may be a progressive development of infectiveness. Then, again, the doctrine of natural selection might obtain in the fact of some specific diseases remaining amongst us, while others have become obsolete. The same law, too, if allowed its full operation, might tend still more than it does to the subjugation of many hereditary diseases; for as these appear in youth, and often cause death, they would fade away by a process of self-destruction. As regards the specific diseases, we see again how the most susceptible persons would be struck out by the poison, and the least susceptible remain, so that the poison would be modified in its virulence. We witness this fact in the more moderate characters of the exanthemata in all civilized nations, in comparison with the more profound effects produced by them in nations where the diseases had been hitherto unknown, as, for example, the fatality in the Pacific Islands of our comparatively mild British measles.

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*Dr. Airy, Dr. Thorne, etc.

Besides the maladies which are induced by the evil influences of our ordinary surroundings, and those due to specific causes just named, there is a class of diseases styled new growths, which take a very large share in adding to man's mortality. The advance made in our knowledge of these structures is very considerable, and is still rapidly progressing toward a determination of their origin and the discovery of their relation to the normal tissues. These investigations are assisting us in discarding some of our older notions regarding their constitutional and malignant nature, and proving that many are accidental in their origin, and therefore may possibly be averted.

In these brief remarks we see how the simple definition of pathology, as a deviation from the healthy standard, fails in its application, and how wide is the range of subjects included in its domain. What these are, you, gentlemen, are about to illustrate in the different subjects which you will bring before the section.

Eucalyptol.

BY LOUIS BAUER, M. D., M. R. C. S., ENG.

Professor of Surgery in the St. Louis College of Physicians and Surgeons, etc.

[THIS is a new remedy, seeming to be possessed of such undoubted remedial powers, that it will find a permanent place in the materia medica. To inform our readers in regard to it, we copy the following article from the St. Louis *Clinical Record.*—EDITOR.]

Eucalyptus Oil has been known and used as a remedial agent in Europe, for the last fifteen years. Its high price has interfered with its general use, and even now, the same cause hinders its rapid introduction into practice. Like all powerful drugs, it has found its warm advocates and also its adversaries.

But since Eucalyptol has been recognized as a more reliable and agreeable, and at the same time less dangerous antiseptic than carbolic acid, and since Professor Lister has emphatically indorsed and adopted it, the interest of the profession in all relating to it has been commensurately increased.

My attention was first called to its therapeutic virtues by Professor Mosler, of Germany, and I then resolved to enter upon a course of experimental investigations. Unfortunately, I have been unable to find leisure for the elaboration of the subject, and, therefore, I have had to content myself with giving it a trial as an opportunity offered. On the whole, I can but confirm the observations of Mosler and others, and must confess that I am most favorably impressed with the action of this drug.

Although I have failed to carry my original design into effect, I will do the next best, by acquainting you with the results of the latest investigations into the subject in foreign lands.

Dr. Hugo Schultz* of the university of Bonn, in Prussia, has just published a pamphlet on "Eucalyptus Oil." He has not only collected the literature on the subject, but he has gone over the entire field with that thoroughness which is peculiar to the German mind. In addition, he has instituted numerous experiments to elucidate the action of this interesting substance. By the aid of this literary auxiliary, I am enabled to render you cognizant of all which is thus far known about the subject.

The author devotes more time and space to the physico-chemical characters of the oil than we have at our command on this occasion. We must refer those who wish to study the subject *ex fundemento* to the original work itself.

The impression prevails that the tree of *Eucalyptus globulus* gives protection against malaria. Prompted by this idea, the French government has commenced its cultivation in the south of France and in Algeria, and the Italian authorities have adopted similar measures to improve their swamp lands. Future observations will decide as to the hygienic virtues of this tree.

From a perusal of the literature of the subject, and taking merely the opinions of such writers as are favorably impressed with the therapeutic properties of Eucalyptus Oil, it would seem that it constitutes one of the most serviceable remedies in the physician's armory.

In the European markets several qualities of the oil are offered for sale, all more or less impure. Some of them had to be prepared for use by re-distillation. Cloez subjects the crude article first to the action of caustic potash and a solution of calcium chloride, and subsequently to distillation. The result is a colorless, transparent oily fluid, with an aromatic odor. Its specific gravity is 0.905; it boils at 170 to 175° F. The substance thus prepared he calls "Eucalyptol," by which term it is now generally known in Europe.

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* Das Eucalyptusœl pharmalogisch und klinisch dargistellt. Bonn: Cohn & Sohn, 1881.

I am not aware that any brand of the article has been imported into the United States other than that of Sander & Sons, of Sandhurst, Australia. The Eucalyptus is indigenous to that part of the world, and grows there in great profusion. The article furnished by this firm, corresponds exactly in its chemico-physical properties to the Eucalyptol of Cloez, and it is this importation that I have employed in my clinical tests.

With the view of ascertaining the physiological effects of Eucalyptol Gimbert, Seitz, Siegan, Schultz, and others have taken ascending doses of the article; Schultz as much as ten grms. (= two and a half fluid drachms) at one time.

Eucalyptol never interfered with digestion, excepting acting as an appetizer.* Only exceptionally it produced ephemeral nausea; soon after it was taken, a sensation of heat was experienced in the mouth, fauces, pharynx, and in the stomach, followed by dryness. A constant effect was a certain by no means disagreeable lassitude and irresistible drowsiness. The sleep following was quiet and refreshing, and susceptible of interruption. For hours afterward the breath was redolent with the peculiar aromatic odor of the drug, and the urine had the odor of violets. No albuminuria was to be detected.

The concentrated alcoholic tincture of Eucalyptus leaves was taken by Seitz in drachm doses. It increased the temperature of the body, and eventually gave rise to slight perspiration. The head felt heavy and as if a band encircled it tightly. The secretion of mucus was augmented in the mouth and pharynx, followed by eructations and dryness. No derangement of digestion was noticed, nor was there any material increase in the secretion of urine.

The elimination of the oil is principally effected by the lungs and bowels; it may take several days before the Eucalyptol disappears from the breath or stools. The skin and kidneys are engaged only remotely in its removal from the body. Sometimes artificial heat must be applied before the violaceous odor becomes noticeable.

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* Eructations, however, followed, sometimes persisting for hours.

One case, however, is mentioned by Mees, in which albumen was discharged under the use of Eucalyptol in malaria. In this instance, albuminuria may have pre-existed; and this symptom may be attributed more rationally to the disease than to the therapeutic agent employed.

Some experiments have been instituted with reference to the *external effects* of the oil. They all show that the drug produces an irritating action upon the healthy epidermis. The raw oil causes a burning sensation, erythema and blisters; the Eucalyptol produces no burning, only a slight reddening of the skin, and a miliary eruption, which manifestations disappear very gradually.

Dr. Schultz noticed a consecutive effect, for which he can offer no explanation, viz: Fourteen days after the termination of the cutaneous changes evoked by the oil, he observed upon himself a new erythema over the chest which recurred every evening, gradually spreading along the course of the lymphatics (like erysipelas), toward the back and down the inner aspect of the thighs, where it became fixed and covered with acneform pustules. These singular phenomena died out by degrees in about four weeks.

The temperature under the action of Eucalyptol.—Gimbert and Siegan claim that animal heat is reduced by this agent. This has been proven experimentally—by Siegan upon himself. Between 1:45 and 6 o'clock P. M., he took one hundred drops of the oil. The physiological rise of six-tenths of a degree (C.) not only did not occur, but there was a fall of two-tenths of a degree below the normal standard. The total reduction, therefore, amounted to eight-tenths of a degree. A second experiment exhibited a depression of six-tenths of a degree. According to Siegan, quinine falls short of Eucalyptol in this regard. These observations have been confirmed by Liebermeister† and Jurgensen.* The former administered a dose of quinine of 2.4 grams (= 37 grains), producing all the collateral symptoms usual to the action of this drug, but no reduction of the temperature after seven hours. The latter observed no change in the bodily heat after the administration of 7.2 grams (= 111 grains) of quinine, given in solution within thirty-two hours. Wachsmuth* makes a similar statement. The comparative experiments, made by Schultz, upon six rabbits, are entirely confirmatory of those referred to; while the temperature was kept below the normal in three which had received subcutaneous injections of half a gram (= 7 or 8 drops) of Eucalyptol.

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* Archive f. Klin. Med., 1876.

† Die Korperwarme, etc., Leipzig, 1878.

Effects of Eucalyptol upon the organic elements of the blood.—On exposing the blood of the frog to the vapors of Eucalyptol, the following changes are observed to take place under the microscope: Increasing clearness of the nuclei of the red corpuscles, radial folding of the protoplasm from the nucleus toward the periphery; gradually the cell elongates, when isolated, and assumes the shape of a rhombus; when grouped, they appear as if converted into endothelium. A small drop of Eucalyptol placed upon the edge of the slide destroys the corpuscles but leaves the nuclei.

Rabbit blood is darkened by Eucalyptol, and the corpuscles are rendered uneven (crenated) at their edges. The spectroscope reveals (1) a marked difference between the blood of cold and warm-blooded animals. The blood of frogs poisoned by Eucalyptol, exhibits the stripes of oxyhæmoglobin, while the blood of mammals, mixed with a trifling amount of the same substance, soon turns dark and coagulates.

Schlaeger states that the action of Eucalyptol obliterates all apparent differences between arterial and venous blood; according to this observer, arterial blood immediately loses its bright color when shaken up with Eucalyptus oil. (2.) The effects of Eucalyptol upon the white corpuscles are more prominent. Both Mees and Binz have obtained the same results in this regard. The former immediately annihilated the contractility of these cells by the addition of one-tenth of one per cent. of Eucalyptol, and in fifteen minutes, by one-fifteenth of one per cent. Artificial heat failed to revive them. In this particular, Eucalyptol produces the same effects upon the leucocytes as quinine.

Another very interesting experiment was made by

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* Archiv d. Heilkunde, 1863.

Mees. He exposed the mesentery of a curarized frog to the vapor of Eucalyptol. The circulation remained normal. After twenty-four, and even forty-three hours, there was no inflammation, nor was there any collection of white blood-corpuscles upon the walls of the vessels, nor any emigration of them; whereas, all these pathological changes were observed in other frogs prepared in the same way except the exposure to the action of this agent. These observations have been fully verified by Binz. Consequently Eucalyptol possesses most valuable virtues as an anti-phlogistic and as a powerful restraint upon suppuration.

The action of Eucalyptol upon the spleen.—The analogy between the actions of Eucalyptol and quinine, has induced Mosler to test its efficacy in reducing the volume of the spleen. His anticipations were fully realized. In his experiments he made use of the extract of the leaves, by the mouth and subcutaneously. He selected dogs as subjects, opened the abdominal cavity and took accurate measurements. During these experiments, the spleens were measured every hour. In four of these tests, the results were proportionate to the amount of the drug employed. That is to say, the size of the organ decreased in all its dimensions, its substance became denser and firmer, surface assumed a slate color and more or less covered with granulations, some of them as large as lentils. Mosler has elicited the same changes by the use of quinine in a similar manner. Other experimenters have verified these observations.

Action of Eucalyptol upon the heart, blood-vessel and respiration.—Numerous experiments by Schlaeger clearly demonstrate that the action of the heart and the blood-pressure are diminished by Eucalyptol, not only in man and in the mammalia generally, but likewise in the amphibia. In a frog, for instance, the action of the heart was reduced, by the subcutaneous injection of one centigram (1-6 of a grain), from 48 per minute, at 10:37 o'clock A. M., to 8 beats per minute, at 4 P. M.; respiration having come to a stand-still while the heart was still contracting 28 times to the minute. Its action upon the heart and lungs explains the conversion of arterial into venous blood under its use.

Action of Eucalyptol upon the nervous system.—The general effects of this agent upon the nervous system are obviously depressing. It reacts upon the spinal cord when given in small quantities, and its action extends to the brain only when large doses are employed. Motor apathy and indisposition to mental effort are the inseparable results of the large doses in man. In animals, the effects are still more pronounced. Paralysis of motion supervenes, the vital functions grow weaker, and death ensues from sheer exhaustion. Gimbert affirms that the mere inhalation of Eucalyptol vapors produced paralysis in certain of the lower animals. Grisar and Schultz have furnished the most striking proofs of its paralyzing effects upon the reflex centers of the nervous system, by their experiments with *brucine*, the alkaloid of the St. Ignatius bean. This substance causes tetanic spasms of all the voluntary muscles which terminate only in death when it is administered in comparatively small does. But if Eucalyptol has been previously injected the *brucine* develops only slight manifestations, and the animals experimented upon recover their full motor powers. Introduced in this way, the two drugs antagonize each other. Since Eucalyptol is absorbed but slowly, it is probably not available as an antidote in brucine poisoning.

Baltimore Academy of Medicine.—Session 1880-81.

APPLICATIONS TO ERODED CERVIX DURING PREGNANCY.—*Dr. H. P. C. Wilson* reported the case of a lady who came to him three months ago suffering from hemorrhages due to erosion of the cervix and cervical canal. This was the same patient in whom, one year ago, it was found necessary to induce premature labor at the seventh month, on account of profuse and exhausting hemorrhages which threatened her life. On examination the os was found soft, the cervix patulous and bleeding when touched. Her last menstruation occurred Nov. 2d. Dr. Wilson determined to try the effect of local remedies, in order to avoid, if possible, the necessity of artificial delivery, thinking that even if they led to a miscarriage, there was no other alternative in the matter. Accordingly, he began to mop out the cervical canal with chromic acid and Monsel's solution, alternating with iodine. This has been continued once a week for five or six weeks, and under it the erosion has healed, the bleeding has ceased, and the patient is advancing safely to her term. The mop was not passed beyond the internal os. He felt satisfied that he could conduct her safely to term.

OVARIAN TUMOR OR PREGNANCY? OBSCURITY OF DIAGNOSIS. —*Dr. Wilson* also exhibited a specimen of compound multilocular ovarian tumor, from a patient with the following history: She menstruated last Oct. 24th. She vomited incessantly and had excessive nausea. There was a faint mulberry-blue color in the mucous membrane of the vagina, and there was evidently a good deal of ascitic fluid present. The diagnosis was obscure, and was not settled until the abdomen was cut into, for the purpose of making an exploratory incision. About two gallons of fluid then escaped from the peritoneum. The ovarian tumor was found attached to the broad lig't and uterus. The pedicle was very short. The blue appearance was not sufficiently marked to be diagnostic; if well marked it is the most diagnostic sign of pregnancy. The uterine sound would have settled the question if it could have been justifiably used.

LACERATED PERINÆUM.—*Dr. Wilson* reported that he had had three cases of lacerated perinæum in the last three weeks. In the first case, that of a primipara, chloroform was used but no forceps; slight rupture took place whilst the head was being lifted off the perinæum by a finger in the rectum.

In the second case, no chloroform given; there was a good labor. Partial laceration occurred under the same circumstances as before.

The third case was that of a primipara. The cord was wound around the neck three times. Forceps and chloroform were used. The rupture occurred as the perinæum was slipping over the head.

All were brought together with serrefines and made perfect recoveries. Dr. Wilson exhibited some serrefines which have been recommended by Dr. Garrigues in cases of lacerated perinæums, and which he said it was very desirable to have on hand in all cases of labor; that the slightest tear might be promptly closed by them. They are to be left alone until they drop off of themselves—which occurs about the third or fourth day. Even slight ruptures require closure as they may give trouble in after years.

Dr. Williams said, the few cases of rupture of the perinæum which he had witnessed had all come from the shoulders, which cut like a knife.

Dr. Morris held similar views. He never leaves the shoulders to take care of themselves, but delivers them carefully, one at a time.

Diabetes Mellitus.—*Dr. McSherry's* paper on this subject (previously published in this journal) gave rise to the following discussion:

Dr. Arnold said, the paper of Dr. McSherry abounded in practical suggestions, which were the more welcome since the pathology of Glycosuria is still very obscure. The disease, according to his experience, does not seem to be of frequent occurrence in this latitude, for in a practice of more than thirty years, he has seen only about a dozen cases. It appears to him that the early stage of diabetes in women is not so easily recognized as in men, on account of the modesty of the former in mentioning the fact of increased diuresis. Symptoms of far less significance than excessive thirst and the discharge of abnormal quantities of urine are apt to obtrude themselves upon the attention of the patients, and sometimes acquire a prominence that embarrasses diagnosis. Not long ago he attended a middle-aged woman who had suffered for many months from frequent attacks of gastralgia, which could only be temporarily palliated by large doses of morphia. She complained also of a chronic "pruritis vulvæ," which at once induced him to suspect the existence of diabetes mellitus, and on closer examination his suspicion proved to be well founded. Directing the diet usually employed in this disease, together with the administration of lactic acid (ʒ i every twenty-four hours), not only cured the gastralgia, but also notably diminished the quantity of sugar in the urine. The pruritus, however, was not relieved. In some of the cases under his treatment he gave a fair trial to large doses of tannic acid, without deriving any benefit from this drug. Lately he has had an opportunity of examining the urine for diabetic sugar in a case of concussion of the brain that was admitted to the City Hospital. The sugar was present in sufficient quantity to render its detection easy by the ordinary tests. It disappeared upon the recovery of the patient.

Dr. McKew had met with several cases. He dwelt upon the inefficacy of treatment. He has derived some benefit from the use of opium and tincture of iron; the latter is capable of diminishing the amount of sugar, and also improving the general condition. If anything permanent is to be accomplished, it is in the early stages; in the latter, only palliation is to be thought of. He objects to the practice of constantly drugging confirmed diabetic patients, and depriving them of so many comforts and articles of food of which they are fond. It is almost impossible to prescribe a diet which is wholly free from matters forming sugar, and even if we could, it would not help our patients.

In illustration of the evil resulting from the attempt to coerce the disease, when fully established, by diabetic regulations, Dr. McKew related the case of a gentleman employed in a very large manufacturing business as general superintendent, and who was very well informed in many branches of natural science. This gentleman was fully aware of the existence of diabetes in his own person for over three years, and knew the sp. gr. and quantity of his urine. He had gotten along very well during all that time without medical advice, and, although feeble, was able to attend to his business. Yielding to the urgent advice of his employers, he consulted a prominent practitioner of the city, who advised a radical change in food and drink. The patient lost his appetite, his stomach revolted at the food offered, and he, in a few days, died of exhaustion. We do wrong in the latter stages to treat our patients so rigorously.

Dr. Uhler had met with several cases, all in men. In one case a gentleman of about thirty-five passed seventeen or eighteen pints of urine daily; his trouble had been pronounced Diabetes Insipidus.

The disease, according to physiologists, is due to increased circulation through the liver, owing to dilatation of the bloodvessels, and ought, therefore, to be treated by pressure, and, if possible, the artificial production of jaundice. He thought that bile might have some beneficial effect, and that many of the after effects of the disease are due to coagulation, probably produced by the sugar circulating in the system. He also thought that the benefit derived from exercise is due to increased action of the lungs and heart, and partly to pressure by the diaphragm.

Dr. J. J. Chisolm remarked that the specialist in large ophthalmic practice, probably, saw more cases of diabetes than any other physician. Many cases of diabetes exhibit no special signs that would attract the attention of the general practitioner always to the kidneys, and call for an examination of the urine, but as soon as vision was in any way disturbed, the services of the specialist would be called into requisition. In the general impairment of nutrition, induced by diabetes, the eye often suffered, and cataracts were not uncommon from this cause of impaired health. Such cataracts are usually of rapid formation, involve both eyes, and are found in persons between twenty and forty years of age. Operations for the relief of this form of cataract, owing to the defective state of health, are not so successful as those occurring in otherwise healthy persons. Cataract is usually one of the advanced symptoms of diabetes. In a case of diabetes recently under his treatment, a female aged thirty-seven, cataracts developed so rapidly that in a few weeks from good sight the patient had lost all useful vision, and required the operation for cataract extraction. An examination of the urine exhibited a copious deposit of sugar. Under the liberal use of the tincture of the muriate of iron, the general condition rapidly improved. The cataract was extracted from the right eye, and six weeks later from the left. Both eye operations were perfect successes, and good sight was restored to each eye without the occurrence of any inflammation during the surgical treatment of the case.—*Maryland Medical Journal.*

Whitlow.

In a clinical lecture on whitlow (*Medical Times and Gazette*, vol. i., 1881, p. 667) Mr. Christopher Heath says that the subject is meagerly treated of in the text-books. If met in the earliest stage, when the finger has just begun to redden and tingle, a twenty-grain solution of nitrate of silver, or the silver stick wetted and lightly penciled over the affected part and a little beyond, checks it at once. When the whitlow is a little more severe—that is, when pus forms about the nail or the tip of the finger—the cuticle, which is insensitive, may be incised. Occasionally, however, when a foreign body has found its way beneath the nail, pus forms there and gives rise to excruciating agony from the tension beneath unyielding structures. Judicious cutting of the nail will relieve this if near the margin; but if near to the base, it is much better to pare down to the nail with a sharp knife until the matter is let out than to resort to the unnecessary cruelty of removing the entire nail.

The third kind of whitlow is really an acute necrosis of the terminal phalanx, following periostitis and suppuration beneath the periosteum, just as it does in the case of a long bone. A very slight injury—the prick of a needle or pin—may set it up. After some hours of uneasiness, the pain becomes acute and throbbing, and entirely prevents the patient sleeping. If timely relief is not given, pus will very slowly make its way to the surface of the finger, but never up the sheath of the tendons, and, when discharged, will leave the greatest part of the phalanx bare and dead behind it. A timely and free incision is the only mode of saving the phalanx, and can not be resorted to too early; for, if no pus be present, the inflamed periosteum will still be divided with great relief to suffering. The finger should be held firmly on a table, and the surgeon, entering his knife just above the traverse interphalangeal mark in the skin, should cut boldly down to the bone in its whole length from base to apex. When, as so often happens, these cases have been treated domestically with "soap and sugar" and poulticing until the end of the finger is riddled with sinuses, there is nothing to be done except to extract the necrosed phalanx as soon as it is loose, and to bring the finger into shape by careful water-dressing applied in strips. The base of the phalanx usually survives, giving a point of attachment to the tendons.

Inflammation of the skin and subcutaneous tissues may occur in any part of the finger. Incisions must here be made with care, so as not to open the theca or sheaths of the tendons, which then invariably slough, and the patient is left with a useless finger. For this reason incisions on each side of the finger are safer than one in the center, that may unawares let out the tendons, which will look perfectly healthy at the moment, but soon become soddened and softened.

The synovial sheaths of the flexor tendons of the thumb are often, though not always, in direct communication with the synovial membrane of the annular ligament of the wrist, and hence pus is rapidly conducted in this way up to, and, if not relieved, into the forearm,

Treatment of Typhoid Fever in Children.

By M. J. Simon (Le Concours Medical. L'Union Medicale).

The treatment of typhoid fever in children differs materially from that adopted in the case of adults. It does not consist in active medication or the employment of a particular remedy, but in a series of indications which should be fulfilled, and which may be stated in the following words: To sustain the strength, quiet or excite the nervous system according to circumstances, and to stimulate the functions of the skin, which are inactive. During the first few days the employment of diluted beverages is clearly indicated; acidulated drinks are to be preferred, since they are refreshing and agreeable to the taste. Such treatment will suffice at the outset, but after four or five days we may commence to administer alcohol. This agent, as is well known, is exciting in certain doses; on the other hand, it is a well-recognized fact that in diseases accompanied by high temperature it reduces the same, and sustains the forces which tend to exhaustion. The form in which the alcohol is administered may vary: Brandy, rum, Malaga wine, etc., may be employed indiscriminately, the dose, of course, being cautiously graduated. During this first stage the child has generally suffered more or less with constipation, but suddenly the scene changes: diarrhœa appears, accompanied by colic, which is sometimes very violent. Emollient fomentations may now be applied to the abdomen, and enemas employed containing two or three drops of laudanum for an infant of five to seven years of age. In most cases we shall soon secure relief of the abdominal pains, and the meteorism disappears after two or three days, sometimes at once. Every third day we may give with advantage a small quantity of some laxative mineral water, not for the purpose of purging the patient, but in order to cleanse out the intestinal canal. Enemata may be administered daily, to which may be added, if desirable, some antiseptic. For the purpose of stimulating the integument and reducing the temperature, the entire body may be sponged with tepid water, to which vinegar may be added. At this point S. makes a slight digression in regard to the employment of cold baths, which he rejects in the treatment of infants; he, however, commends the use of tepid baths, as giving good results, not being accompanied by the discomforts of cold immersions. The patient should be moved to a bed in another chamber, morning and evening, if circumstances will permit; the object of this practice is to prevent the child from being kept constantly in contact with the poison which is engendered. It is desirable to add to this the most absolute silence, a darkened room, and rest which is undisturbed by inopportune visits. The diet should be regulated, but not too greatly restricted: milk and broth should be prescribed for the purpose of sustaining the strength of the patient.

To recapitulate, the treatment of ordinary typhoid fever, developing without unusual complications, consists, directly, in sustaining the vital forces by means of milk, broth, alcohol; and, indirectly, in diminishing the hypersecretion of the intestinal tract and combatting the poison by means of enemata, change of air, etc.

(1.) *Abdominal complications.* These include diarrhœa and severe griping. Absorbent remedies may be employed boldly, and palliatives to a limited extent. We may prescribe a mucilaginous mixture of ten grammes of chalk or four grammes of bism. subnit. in water or sugar. Benefit will also be derived from the administration of enemata of boiled starch, to which may be added four or five drops of laudanum; this dose of opium may be increased according to the tolerance of the patient, but great precaution should always be exercised. Emollient fomentations should be applied to the abdomen; it is possible that the diarrhœa may not cease for four or five days.

(2.) *Thoracic complications.* The most frequent are general bronchitis and partial congestion of both lungs. Emetics should generally be avoided. Ipecac, kermes and antimony are strictly prohibited; all such agents have no other effect than to depress the strength of the patient, and, indeed, may superinduce a fatal result. We should restrict ourselves to the application of dry cups to the front and back of the chest; this is a very simple remedy, but nevertheless very powerful, and always at hand. By such a procedure we stimulate the subcutaneous functions, and cause a salutary revulsive effect. Alcohol should be freely prescribed in doses of twenty to thirty grammes in a mucilaginous drink; if required, a little extract of cinchona may be added. If the dyspnœa is greatly increased, a blister may be at once applied to the chest, and left in place three or four hours, but never longer. This will suffice to irritate the integument, and may be replaced by a bran poultice, which will promote vesication. We should not reject a therapeutic agent of such great value, especially in the infant, for the fear of causing an eschar. It is true that such an accident may very readily be produced in typhoid fever, and in general in cachectic conditions, but it may always be prevented by early removal of the vesicant.

(3.) *Cerebral complications.* These are the least controllable. Chloral may be employed in the dose of one to two grammes (?) If the infant presents symptoms of much excitement an enema may be given containing the yolk of an egg, a gramme of chloral and a gramme of camphor. Bromide of potassium may be administered as a last resort, but only for two or three days in succession.

(4.) *Hemorrhages.* Intestinal hemorrhages, so common in typhoid fever, are rare in the child; more frequently, obstinate epistaxis occurs, and the most successful means of arresting the discharge of blood is the following: A piece of agaric is cut into portions about one ctm. in size; these are introduced as far as possible into the nasal fossæ until the cavities are well filled, and held in place by means of a bandage. It is sometimes necessary to soak the agaric in a solution of per-chloride of iron. In every case tamponing the posterior nares by means of *Belloc's* canula should be rigorously prohibited; such manipulation is indeed very difficult, on account of the restlessness of the child; it excites nausea and secures no better results than the above means.

In case of intestinal hemorrhage, two drops of perchloride of iron may be administered every two or three hours, in a little water; if this does not suffice, cold drinks may be given, and cold compresses applied to the abdomen. Internally ice may also be administered, grated and mixed with powdered sugar, which is generally very agreeable to the patient.

(5.) *Complications arising from pressure.* These are caused by congestion, leading to the formation of eschars over the parts which support the weight of the body; they occur most frequently over the sacrum. An attempt should be made to prevent them, which may be most simply accomplished by placing the infant upon an air-cushion two-thirds filled; the parts may also be washed carefully with an infusion of fol. juglandis, or with ordinary astringent solutions. In conclusion, we may glance at the grave forms of typhoid fever.

In the ataxo-adynamic forms, characterized by a combination of delirium and prostration, we may at once apply a blister to the back of the neck, which, as soon as it is dry, may be replaced by another; moreover, we may employ the remedies above adopted in cerebral complications. Finally, in adynamic typhoid and zymotic forms we should rely upon tonics and stimulating agents, capable of exciting the functions of the nervous system. If necessary, cold baths may be given, which should not be continued more than a few seconds, which will suffice to produce a strong excitant effect; however, this is a means which should never be employed until all others have failed.

Malarial Organisms.

PROBABLY the most useful work in which the National Board of Health is engaged is in the fostering of researches upon etiology. There lies upon our table the report of Dr. Sternberg made to the Board concerning the nature of malaria and the correctness of the asserted discoveries of Klebs and Tommasi-Crudelli as to the production of malarial fever by an organism, the *Bacillus malariæ*. Injections of Roman mud and New Orleans gutter-slime, or of foul soil from a Mississippi delta, certainly kill rabbits; but we think Dr. Sternberg has clearly shown that it is not probable that the rabbit suffers from intermittent fever. The fact that rabbits in malarious districts do not suffer from malaria makes it probable that they are not subject to the ague-poison; and the temperature curves of Dr. Sternberg and of the Italian investigators themselves show that the fever which has followed their injections into rabbits has not a type at all comparable to that seen in human ague. Moreover, Dr. Sternberg has shown that the post-mortem lesions in the rabbit are not at all peculiar, but resemble closely those found in septicæmia. Klebs and Tommasi-Crudelli also attach some importance to the asserted fact that in malarial fevers there is in man an increase in weight in the early stages of the attack, and that they have found this to take place in the rabbit poisoned with Pontine mud. We think that most physicians will agree with us in believing that early gain of weight is not a diagnostic symptom of malarial fever, and Dr. Sternberg has shown that sometimes, at least, gain of weight does occur in septicæmic rabbits. Dr. Sternberg very properly does not assert that he has disproven the existence or toxic properties of *Bacillus malariæ*, but he seems to us to have clearly shown that there is at present no evidence that the organism possesses the deadly powers ascribed to it. A very important part of the work of Dr. Sternberg was the attempt to study the specific characters of the bacillus, so as to know whether it really has existence as a distinct form worthy of an individual name. The doctor did find in the mud from near New Orleans, and also in gutter-liquids taken from within the city limits, certain filaments of vegetable nature resembling those of *Bacillus malariæ*, and probably identical with it. There does seem, however, a want of anything worthy to be called specific characters, and filaments closely resembling, and, to us, indistinguishable from, the *Bacillus malariæ*, may be found in any foul mud near this city. It should be remembered that the bacillus has not yet been discovered in the human blood or body, and it does look as though the Italian experiments, careful and skillful though they may have been, have had too much weight attached to them, and that we are no nearer any knowledge of the ultimate nature of the malarial poison than we were ten years ago. Dr. Sternberg thinks we might experiment upon human beings, because intermittent fever is so easily cured and so rarely fatal; but we are inclined to believe it will be some time before this is carried out. The difficulty is not that malarial fever, if produced, would be serious, but that no one can tell what other affection, instead of ague, might be caused in the attempt at the production. It looks very much as though foul mud were a septic material; and he will be a brave or reckless man who purposely makes a compost-heap in his own cellular tissue.—*Med. Times.*

MICROSCOPY.

High Amplifications.

References have been made by a lady correspondent in recent numbers of the *American Journal of Microscopy*, to an amplification of upward of 20,000 diameters obtained with a $\frac{1}{6}$ objective using an eye-piece of $\frac{1}{50}$ equivalent focus. On the usual assumption that a one-inch objective gives a magnification of 10 linear, a $\frac{1}{6}$ would give 50, and a $\frac{1}{50}$ eye-piece 500: the combined amplification would therefore be $60 \times 500 = 30{,}000$ linear. A few instances of practical results obtained with high amplifications can not but make us feel sceptical of the value of the definition obtained with a $\frac{1}{50}$ eye-piece.

Sir John Herschel, in his *Treatise on Light*,* mentions having "viewed an object *without utter indistinctness* through a Microscope by Amici, magnifying upward of 3,000 times in linear measure."

In the very early days of the collodion process in photography, Mr. Wenham exhibited a micro-photograph of *P. angulatum* magnified 15,000 linear: it is no disparagement to the photograph (a copy of which we have recently inspected), to say that it is not remarkable for distinctness. It was produced with the first compound achromatic $\frac{1}{25}$ ever made in this country; and the lens coming from the hands of an amateur optician, and the photograph being produced by the same amateur photographer, the result was then regarded as an almost marvelous specimen of practical skill and ingenuity.

Some thirteen or fourteen years ago, Hartnack had a micro-photographic transparency on ground glass of *P. angulatum* exhibited in his *atelier* in the Place Dauphine, Paris. The magnification was about 3,000 linear; the image was well defined to the edges—about 16 inches square—and was produced with one of his then best No. 10 immersions.

In 1867, Dr. Woodward, of Washington, forwarded to Dr. Maddox, for exhibition to the Society, a series of micro-photographs of *Podura* scales, and various other test objects produced with sundry objectives, notably Powell and

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*Encyc. Metrop., page 581.

Lealand's $\frac{1}{50}$, $\frac{1}{25}$ and $\frac{1}{16}$ dry lenses. The amplifications did not exceed 2,100 linear. Dr. Maddox then remarked that he believed "the *Podura* scale had never yet, in this country, been photographed by a $\frac{1}{50}$." The *Navicula rhomboides*, by Wales's $\frac{1}{8}$ and amplifier, magnified 800 linear, was especially admired.* Shortly afterward Dr. Woodward presented to the Society a large series of micro-photographs of Nobert's 19-group test-plate, and other test objects—the direct amplifications not exceeding 2,000 linear.

At various dates micro-photographs have also been brought before the notice of the Society by Dr. Maddox, Dr. Woodward, Count Castracane, Mr. S. Wells (of Boston), and others, and the direct amplifications have rarely exceeded 2,000 linear.

In 1868, Mr. Charles Stodder, of Boston, having access to a number of the presumably best objectives in America, was content to specify his own magnifications as not exceeding 1,062 linear (though he referred to 6,000 obtained by Messrs. Sullivant and Wormly),† and he particularly commended the performance of Tolles' $\frac{1}{6}$ immersion, as "the best on record"—and yet the magnification was only 550 linear for the resolution of Nobert's 19th group.‡

It is to be supposed that experienced microscopists like these have in every case sought to do full justice to the objectives in their hands, and it may be noted particularly that with so difficult an object as the highest group on Nobert's 19-group plate, Dr. Woodward, down to the latest date on record, has limited his micro-photographic operations to *less* than 2,000 linear of *direct* amplification. His more recent series of micro-photographs comprised *A. pellucida*, both dry and in balsam, the magnifications hardly exceeding 3,000 linear, though the objectives included $\frac{1}{25}$, $\frac{1}{16}$ and $\frac{1}{8}$ immersions of Powell and Lealand, $\frac{1}{25}$ and $\frac{1}{18}$ immersions, and $\frac{1}{10}$ oil-immersion of Tolles, $\frac{1}{10}$ glycerin-immersion of Spencer, $\frac{1}{8}$ and $\frac{1}{12}$ oil-immersion of Zeiss. The last objective named he regarded as the most powerful "resolving" lens he had seen up to the date of his communication (October, 1879). Dr. Woodward has then been contented with about 3,000 linear to exhibit the *best* definition of the objectives in the well-known official collection of the Army Medical Museum at Washington.

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* Quart. Jour. Micr. Sci., No. xxix. (1868). Proc. R. Micr. Soc., page 63.)

† Amer. Journ. Sci., Jan., 1861.

‡ See reprint of Mr. Stodder's paper on "Nobert's Test-plate, etc., Quart. Journ. Micr. Sci., No. xxxi. (1868), pages 131–8.

Highest Magnifying Powers.*

Mr. A. Y. Moore also refers to the same subject under this title.

It is well known to all practical microscopists that the magnifying power of an objective may be increased by eye-piecing to a certain extent, with a continued gain in resolving power. When the limit of resolving power is reached the magnifying power may be further increased, but nothing is gained, except in the apparent size of details already shown. After this comes a period in which the magnifying power may be increased almost indefinitely; but it is now very noticeable that the resolving power is impaired. The aberrations of the objective interfere greatly with the image. In fact, it is here that a lens is frequently said to "break down."

These three stages may be conveniently studied in an ordinary cheap $\frac{1}{4}$ of 100°. With an amplification of 300 diameters such a lens should easily resolve *P. angulatum*, but try as best we can, the lines of *Surirella gemma* will fail to be seen. Now, if a higher eye-piece be applied, giving a power of 500 diameters, this diatom may be resolved. Supposing this to indicate the limit of resolvability of the object, a still higher eye-piece may be used; but the resolution is simply shown larger. This period probably will extend to 1,000 diameters, but if increased much beyond this less is seen at each increase of power.

The extent to which these three stages may be carried is, of course, dependent upon the quality of the objective and its angular aperture. In testing objectives the magnifying power should be carried to the second stage, for a lens is frequently defeated simply because the visual angles subtended by the lines (or dots) are insufficient for recognition by the eye.

In a recent article in the *American Journal of Microscopy* a magnifying power of 100,000 diameters is mentioned, obtained by means of a Wales' $\frac{1}{15}$. From the fact that *P. angulatum* was the extent of its resolving power, it is seen that the lens was far into the third stage of its magnifying power. Any such increase of power is, so far as practical work is concerned, useless; but the second stage is what we need and want. Frequently details are seen, but are so small as to tire the eyes; while, if enlarged by a higher eye-piece, fatigue is prevented.

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* Amer. Journ. Micr., v. (1880), pages 174–6

Mr. Moore suggests the question, What is the highest power ever attained and used *without* losing resolving power, and what objectives are best suited to yield such powers? Will a $\frac{1}{25}$ or $\frac{1}{50}$, with lower eye-piecing, give better results than a $\frac{1}{6}$ or $\frac{1}{10}$ with high eye-pieces and the magnifying powers the same? He is only able from personal experience to give the result of using a $\frac{1}{50}$ eye-piece, with a $\frac{1}{6}$ objective of "180°" (or 100° "balsam angle"), giving a magnifying power of 32,500 diameters. With this he was able to see the last three diatoms of the balsam Moller Platte clearly resolved. The lines of No. 20 did not look exactly like "the pickets on a fence," but more like a lean horse's ribs. The eye-piece was not certainly *easy* to use, and sunlight was necessary to see anything at all.

Origin of Homogeneous Immersion.

In describing a new diatom* (*Navicula synedriformis*), the Abbe Castracane mentioned that he had made use of a homogeneous immersion objective of Zeiss, "the principle of the construction of which is due to the celebrated Prof. G. B. Amici, but the realization to Prof. Abbe."

On this statement Prof. Abbe writes to us as follows:

"My sincere estimation of the prominent merits of Amici —whom I consider to be the very father of modern microscopical optics—need not prevent my pointing out that it is incorrect to ascribe the homogeneous immersion method to him.

"Amici, it is conceded, first applied *oil* immersion, but the use of oil, by itself, does not constitute *homogeneous* immersion.

"Amici did not aim, and indeed at that time could not have aimed, at the specific advantage of an immersion fluid being *as near as possible*, in refractive and dispersive powers, to the crown glass. Some of his oil lenses require, for good correction, a liquid of considerably *less* and others a liquid of considerably *higher* refraction. From what is known of Amici's oil lenses it is clear that he availed himself of the different refractive powers of various oils and mixtures of oils for obtaining the best correction of his lenses *after he had finished them*, but did not direct his work to any definite refractive index of immersion fluid *prescribed previously*, except perhaps in favor of water immersion. This is so natural that it would be unintelligible if Amici had proceeded otherwise; he *could* not aim at the peculiar optical benefits attendant upon the index 1·50 in comparison with 1·45 or 1·55, because it would have been utterly impossible to utilize it practically at that period. This requires a refinement of technical art which was not attained by the manufacturers of immersion objectives until a much later time.

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*Accad. Pontiff. de' Nuovi Lincei, xxxiii. Sess. II., 25 Gennaio, 1880.

"The essential fact, in the principle of homogeneous immersion, is the increase of optical performance obtained from the total suppression of spherical aberration in *front* of an objective, and it was Mr. J. W. Stephenson who, in his first communications with me, expressed the opinion that doing away with the anterior aberration would improve the defining power, and especially would afford *very favorable conditions for further increase of aperture*, and suggested that the matter should receive an exhaustive theoretical and practical investigation by Mr. Zeiss and myself.

"This suggestion, which had not been previously made (though it is very self-evident *now*, as is always the case after a thing has been done), is the true origin of the homogeneous immersion method, and the basis of the superior performance of objectives of this kind."

* * *

Ointment for Itch:—

℞	Balsam of Peru, ...	℥j.
	Benzoic acid, ...	gr. cx.
	Oil cloves, ...	gtt. xl.
	Alcohol, ...	f. ℥ijss.
	Simple cerate, ...	ʒvij.

Dissolve the essential oil and the benzoic acid in the alcohol, and mix them with the cerate; lastly, add the balsam of Peru.

It is said to effect a cure in twenty-four hours.—*Canada Med. Record.*

GLEANINGS.

Artificial Human Milk.—I should like to direct the attention of practitioners to the artificial human milk now prepared by the Aylesbury Dairy Company, at a cost little over that of the best nursery milk. This valuable method of treating cow's milk was first brought under my notice some years ago by Dr. Frankland, the eminent chemist, who devised it for one of his own children who was ill; and I have since used it extensively in my practice. Its composition is absolutely identical with that of human milk, and under its use the risks and disadvantages of bottle-feeding of infants are reduced to a minimum. I have been in the habit of instructing nurses how to prepare it at home from Dr. Frankland's recipe, but the trouble and difficulty of making it stood seriously in the way of its general adoption; and, unless the nurse happened to be exceptionally intelligent, failure very frequently followed. For this reason I suggested its manufacture to the Aylesbury Dairy Company, and the specimens with which they have since supplied me have been perfectly satisfactory, and require no further treatment than heating to the proper temperature. I look upon it as immeasurably superior to asses' milk, than which it is much cheaper; and if this valuable preparation were more generally known and used, much illness, in the case of children who can not be brought up at the breast, would be avoided.—*Dr. W. S. Playfair, British Med. Journal.*

Volkman's Operation for Hydrocele.—Wm. Gardner reports three successful cases in which he performed this operation for radical cure. Operating under carbolic spray, he made an incision the whole length of the scrotum through all the tissues to the tunica vaginalis, which he then opened and divided to the same extent with probe-pointed scissors. The tunica vaginalis was then stitched to the skin by several points of interrupted suture, and after the insertion of a drainage tube at the lower angle, the whole was brought together with deep wire sutures. Antiseptic dressings were applied, and in a few days the wounds were healed.

He says that the advantages of the operation are: "1st. The absolute certainty of cure within a fortnight, if antiseptic precautions are observed. 2d. The smallness of the risk, as evidenced by Volkman's list of seventy cases without a death. 3d. The simplicity of the operation. 4th. So far as at present known, the operation is never followed by orchitis, as has been the case with the injection treatment. 5th. This advantage has been pointed out by Mr. MacCormack in the following words: 'That a diagnosis in doubtful cases is thereby made easy, and a tumor of the testicle, of which the hydrocele is a symptom, may be thus examined, and, perhaps, in some cases, treated by immediate removal, or in others by incision.' "—*Australian Med. Journal*, January, 1881.

The Cure of Varicose Veins by Subcutaneous Ligature.—Dr. John Duncan, of Edinburgh, employs carbolized catgut for the radical cure of varicocele (*British Medical Journal*). The veins are separated from the artery and vas deferens, and a needle armed with catgut is thrust through at the point of separation; it is then reintroduced at the orifice of emergence, made to pass between the veins and the skin, and brought out at the original entrance; the two ends are then firmly knotted together and cut short. By traction on the scrotum the knot is made to disappear entirely, and the punctures are covered with salicylic wool saturated with collodion. The same maneuver is repeated an inch higher, and sometimes a third ligature is advisable. A hard lump of coagulum forms between the ligatures, tender at first, but soon diminishing in size and becoming insensitive. Dr. Duncan treats varicose veins of the leg in the same manner. The introduction of the point of the needle into the aperture of exit of the first puncture and the tightening of the loop of catgut is difficult when there is brawny edema. In such cases the patient should be kept at rest and an India rubber bandage applied for a few days. A single ligature is not sufficient, and to close the lumen permanently two must be applied about one inch apart. It is essential that no branch be given off in the segment of vein between the ligatures.

Surgical Treatment of Abscess of Liver. The following summary represents the results of my investigations in regard to the surgical treatment of abscess of the liver: 1. The liver should always be aspirated in a case of suspected abscess, in order to verify the diagnosis. 2. Many small, and a few large, abscesses have been cured by one or more aspirations; hence this method should always be employed at the first exploration, and we should then wait until it refills. If pus collects slowly and in small amounts, it may be again aspirated; if quickly, and in large quantities, aspiration is not to be relied upon. 3. Incisions should be made into the abscess cavity at the most prominent position of the tumor, whether in an intercostal space or not, and irrespective of the presence or absence of adhesions. 4. Rigid antiseptic precautions add much to the safety and certainty of a successful result. 5. When Listerism is impracticable, good results will generally be obtained by a simple incision or puncture by a trocar and canula, followed by the introduction of a drainage tube and the daily use of carbolized injections. 6. Any of these methods are preferable to leaving the case to nature.—*R. Winslow.*

Facial Paralysis.—The type of a rheumatic paralysis is that form of facial paralysis produced by cold. Cold air directed against the side of the face induces such a refrigeration of the nerve as to impair its conductivity, and lead to sudden paralysis in the muscles which it supplies. The eye can not be closed, and expression is completely lost on that side of the face. A small proportion of the cases manifest a tendency to spontaneous cure. If severe, the muscles presently exhibit the reactions of degeneration—respond only to the galvanic current. Some effusion probably takes place in the sheath of the nerve; hence galvanism gives the best results. Stabile galvanic currents may be applied at once, the anode resting on the nerve where it emerges from the skull and the cathode on its peripheral portions. Excitation of the muscles should be postponed for a few days, when it will be found that a very weak galvanic current slowly interrupted induces ready response in the muscles. Many of the cases recover in a few weeks; some require months, even years of treatment. Cases of many years' standing have been cured by persistent application.—*Bartholow's Medical Electricity.*

Hammond on Abscess of the Liver and Melancholia.—*Dr. Hammond* ("Neurol. Contrib., i., 3, 1881) states that he has performed aspiration of the liver for abscess in melancholia, etc., in forty-three cases; in twenty-seven cases there was no pus nor any other fluid removed; in one there was a hydatid cyst; and in fifteen pus was obtained with relief. He asserts that in no case had adhesions formed between the surface of the liver and the abdominal wall, and that in no case was the operation followed by the slightest untoward result. He concludes from his experience that hepatic abscesses often exist, and may do so without local symptoms or general disturbance; that if associated with hypochondria, etc., evacuation of pus will result in cure of the disorder and saving of life, while, if there is no pus, no harm is done. He therefore recommends that (*in all cases of hypochondria or melancholia*) the region of the liver should be carefully explored, and that, even if no fluctuation or any other sign of abscess be discovered, aspiration through one of the intercostal spaces should be performed.—*N. Y. Med. Jour. and Obstet. Rev.*, August, 1881.

INTESTINAL OBSTRUCTION BY WINE BOTTLE.—The patient having seat worms was in the habit of introducing butter into the rectum to destroy them. One day, to push the butter further, he laid it on a piece of paper on the mouth of a hock bottle, and then sitting on this gradually introduced the bottle (which tapered from its base to its mouth) entirely within the rectum. Unsuccessful attempts were made to withdraw it. The mouth of the bottle could be detected on the left side of the abdomen near the short ribs. An incision under chloroform made backward between the coccyx and tuber ischii allowed more room, but still there was no success, although all sorts of forceps, cords, etc., were tried. Next day, the symptoms being urgent, the abdominal wall was cut through in the left linea semilunaris, the bowel opened in the descending colon and the bottle drawn out. The wound in the bowel was closed by a continuous cat-gut suture, and the patient rallied well at first but sank and died next day.—*London Letter in Amer. Practitioner.*

HAMAMELIS VIRGINICA AS A LOCAL APPLICATION.—Dr. W. H. Netherclift writes to the *British Medical Journal* concerning "hazeline," the new extract of witch hazel, that as a local application in irritable and inflamed piles situated at the margin of the anus, where the remedy can be readily applied, he has never met with its equal. In most of the cases submitted to the treatment the relief was immediate and permanent. His plan has been to have the part bathed in the solution three or four times a day, and a piece of lint dipped in it kept applied to the anus during the intervals. All urgent symptoms have passed away, as a rule, in from twelve to twenty-four hours. In chronic and intractable ulcers of the varicose or eczematous description he has met with excellent results by using the hazeline after the fashion of a water-dressing.

ANGINA PECTORIS.—High arterial tension is not to be regarded as the determining cause, but as the one factor of pain in some cases; and whilst it is true that nitrite of amyl gives relief when high tension is present, there is reason to be cautious in pressing the amyl when it fails, for by lowering tension when already low the amyl may dangerously increase the tendency to stagnation of the blood. The cases of angina, which are due to high arterial tension, form only a part of the whole number. There are other cases which are more purely neuralgic, and which arise from the inclusion of a cardiac nerve in the inflammatory decay of an artery. It is more violent than the first form, and the intervals are more free. The hypodermic injection of morphia gives the most satisfactory result here. There are also cases of reflex angina pectoris, whose source is at a distance.—*Moxon's Croonian Lectures.*

NITRATE OF SILVER FOR WORMS.—Dr. M. P. Greensword (*Medical Summary*) was accidentally led to regard nitrate of silver as a remedy for worms. Further use of this drug has convinced him that it is one of the most potent agents we have for the destruction and expulsion of worms. He gives a teaspoonful three times a day, of a solution of five grains of nitrate silver in six ounces of rain water.

BOOK NOTICES.

SCIENCE AND THE HEALING ART; OR A NEW BOOK ON OLD FACTS.—By John Custis Darby, M. D. 8 vo. Pp. 403. Louisville: John P. Morton & Co. Price, $2.00.

The author of this work is a physician full of years, of Lexington, Ky. It embodies the observations and thoughts of many years upon subjects pertaining to his chosen profession; and having the advantage of a well-balanced mind, thoroughly cultivated, and stored with knowledge, the reader will find much in the book to interest and edify. Although we have not had time, since the work was placed in our hands, to any more than glance through it; yet our personal acquaintance with the writer assures us that, with his endowments, during his long life, he has been able to put on record not a little of value as the result of observation and experience. Not a few live many years without learning anything—and probably this is the case with the majority of people. To be wiser by living, it is necessary that objects which come before one or the other of the five senses should be recognized—the mind called to them—their qualities observed; if of the same order, their differences noticed; a comparison instituted and arranged accordingly, and the laws governing them studied. When many facts have thus been subjected to intellectual observation, and been stored away in the storehouse of the memory, the reasoning faculties are called into activity, which, by their deductions, lead to the knowledge of new facts, and enable the individual to employ the knowledge he has acquired to his own benefit and that of others.

While Dr. Darby's work is not a "Practice of Medicine," in that it does not take up the different diseases to which the human being is liable, and give their history, etiology, and pathology, yet in its sixteen chapters it is full of most valuable matter in regard to the treatment of diseases, in discussing the blood, excretions, animal heat, the liver, hyperemia and congestion, renewal of life, emetics and cathartics, cathartics, calomel, chronic diseases, cholera, treatment of cholera, etc.

In the treatment of cholera, we find that the author regards calomel as the sheet-anchor of hope. But to do good, he asserts that it must be given in large doses. In the epidemic in 1849, he gave in many cases *eighty grains* every two hours. He mentions one case in which he gave *an ounce* at a single dose with the effect of giving almost immediate relief. With the large doses salivation seldom happened. The theory of cure by the use of such enormous doses, he bases on the fact that, while rice water discharges are pouring from the patient, the liver is not acting at all, and, so long as it is entirely dormant, no step can be made toward relief. Small doses will be ejected; but by means of very large administrations, so great a weight of the medicine is obtained as to secure the retention of sufficient to excite the liver into action. Though a hundred times as much be administered as may be necessary to bring about the desired result, the excess, he says, will do no harm, as it will pass *per rectum* unchanged. Opium, and such like remedies, he regards as harmful, since they restrain normal glandular secretion, which must be roused before a cure can be brought about. Without reference to the large doses of calomel, we can not help but regard the old gentleman's theory in regard to the treatment of cholera and many other affections, as plausible.

We feel sure that an attentive perusal of the work will impart to the young physicians of the present time, many most valuable practical truths which will assist greatly in the treatment of disease Every graduate on starting out to practice medicine, should secure a copy to supplement his work on practice. By doing so, we have no doubt he will add very much to his success.

THE SCIENCE AND ART OF MIDWIFERY.—By Wm. Thompson Lusk, A. M., M. D., Professor of Obstetrics and Diseases of Women and Children in the Bellevue Hospital Medical College, etc. With numerous illustrations. 8 vo. Pp. 687. New York: D. Appleton & Co. Cincinnati: R. Clarke & Co.

It has been some time since we have noticed an entirely new work on obstetrics. In the last couple of years we have noticed quite a number of new editions of old works, but quite few which have made their appearance for the first time. With so many valuable works upon obstetrics before this profession as there is at the present time, many may inquire the object of the present one. Has the author's experience and observations been such as to justify his writing and publishing a new obstetrical work, and requiring physicians to incur the expense of its purchase in order to be informed of new discoveries or made acquainted with new advances in obstetrical knowledge? The writer states that his purpose has been to present to the reader a fair statement of the changes which have been made by modern investigation, in the views entertained respecting the physiology and pathology of pregnancy, labor and childbed; and that he has endeavored to show that with advancing knowledge, the art of midwifery has ceased to rest upon empirical rules, and is already, with rare exceptions, the natural outcome of scientific principles. He has subjected the doctrines taught to rigorous clinical tests, and has supplemented and corrected his own personal experiences by the recorded observations of others.

An examination of the work convinces us that it is a very meritorious one; and if there is not much in it not known before by experienced obstetricians, yet it will be found that the principles of obstetrics are set forth in a prominent manner, and it is shown how that the various operations proceed from them—thus elevating this branch of medicine from a mere empirical art, as it is generally looked upon, and giving it a scientific character. The more any department of knowledge is practiced as a science—developing principles, and deducing modes of action from them—the higher will be its plane, and the more useful will it be made. The surveyor or architect may practice his calling as a mere art, without understanding any of the scientific principles involved; but in doing so, he plods along unqualified for any emergency that may happen, and learning nothing new however great may be his experiences.

The student and young practitioner will find this an excellent work, well adapted to their wants. The different topics are well arranged, and the subjects explained in a succinct manner, but so as to be interesting and easily understood. A proper study of it will well qualify the student to perform all the duties of the accoucheur. The various manipulations, on the skillful performance of which success is so dependent, are made as plain as possible, and their *modi operandi* so clearly described, that any failure in their performance at the bedside would be due to want of manual skill, after they had been studied in the book before us, and not to ignorance of the steps to be taken.

The work is well illustrated, containing 226 cuts, not a few of which are new, and all of superior order. We mention these, for the reason that illustrations are of great importance in a work on midwifery, as an aid in understanding the descriptions of operations, etc.

TEXT-BOOK OF MODERN MIDWIFERY.—By Rodney Glisan, M. D., Professor of Obstetrics, etc., in Willamette University. With 130 illustrations. 8vo. Pp. 639. Philadelphia: Presley Blakiston. Cincinnati: R. Clarke & Co. Price, $4.00.

We have the pleasure of anouncing another work on obstetrics, besides the one noticed in another place; and this one, as well as the other one, is an American one.

The author very correctly states that many years have elapsed since the first appearance of the obstetric treatises of Meigs, Hodge and Bedford; and that the more recent editions of their works have not kept pace with the progress of this branch of medicine. To supply the deficiency, the American Medical Schools have been furnished with obstetric text-books from Great Britain and continental Europe, as those of Playfair, Leishman, Cazeaux and Schrœder.

Of course, science is not limited by geographical environments, and a scientific man will seek knowledge in whatever quarter he can find it; yet, if our physicians have all the qualifications necessary for writing text-books for the students of our country, we think that they should do so, and the students should give them the preference. Besides, each country has, to considerable extent, methods peculiar to itself, and these are best learned from the writers of that country.

We can not say that Prof. Glisan has made any new discoveries in medicine which are set forth in his book, but we can say that he has produced a very excellent work, which is very well worthy the patronage of the profession of this country. The work is fully abreast of present knowledge, and represents the obstetric art of to-day. Older physicians, who have been for the last twenty-five years consulting the old works of Meigs, Bedford, etc., should now be discarding them, and having purchased Prof. Glisan's work, see how far it is in advance of the old works we have mentioned, in its theory and practice, in its knowledge and methods.

Medical students preparing for college and in attendance upon college, will find it well adapted to their wants.

We cordially recommend it to all.

CHEMICAL ANALYSIS OF THE URINE, BASED IN PART ON CASSELMAN'S ANALYSE DES HARNS.—By Edgar F. Smith, Ph. D., and John Marshall, M. D., Demonstrator of Chemistry in University of Pennsylvania. With Illustrations. 16mo. Pp. 101. Philadelphia: Presley Blakiston. Cincinnati: R. Clarke & Co. Price, $1.00.

Physicians and medical students will find this a very convenient little work to aid them in making urinary analysis. Though small, it is sufficiently full in its directions for making chemical and microscopical examinations of urine. The plates exhibiting the microscopical character of sediments alone are worth the price of the book.

THE MEDICAL RECORD VISITING LIST; OR PHYSICIAN'S DIARY FOR 1882.—New York: Wm. Wood & Co.

WALSH'S PHYSICIAN'S COMBINED CALL-BOOK AND TABLET FROM 18— to 18—.—Sixth Edition. Washington: Ralph Walsh, M. D.

THE PHYSICIAN'S HAND-BOOK FOR 1882.—By Wm. Elmer, M. D., and Albert D. Elmer, M. D. New York: W. A. Townsend.

THE PHYSICIAN'S MEMORANDUM BOOK.—Arranged by Joel A. Miner. Fifth Improved Edition, with Clinical Columns and Ledger Sheets. Ann Arbor, Michigan: Joal A. Miner. Order by mail.

We have given above the titles of the several Visiting Lists which we have received since our last issue. While in their main features alike, in that each one affords an opportunity for a physician to keep an account of the visits he makes to his various patrons, yet each one has some peculiar features that would recommend it to certain ones. If we should construct a visiting list for ourselves, we should have a sufficient number of ruled pages crossed by perpendicular lines to keep a daily account of all our visits to our patrons—room down the margin of the page for inserting names; and then a few blank pages for miscellaneous memoranda. Besides these nothing more. It is the object of all visiting lists to be carried in the pocket, and consequently they should be thin and light. It is a mistake, we think, to endeavor to crowd into a List an epitome of all the text-books on medicine. There is no need, in our opinion, of any printing whatever, beyond having the months and year printed at the top of the pages of the part devoted to the weekly record of practice, and a calendar on the first page. Of the four, whose titles we have given, the one of Joel Miner comes nearest our description, and which has also the merit of being the cheapest visiting list published. But equally as well suits Lindsay's and Blakiston's mentioned last month.

But the tastes of many differ from ours. Many, no doubt, would prefer "Wood's Record and Visiting List," which is certainly gotten up in the handsomest style of any. It has but little more reading matter than Miner's, but considerably more space for memoranda of various kinds. It is a beauty and very convenient. Walsh's compares very favorably with them all, and we would be very well satisfied with it. With it a physician can begin at any time during the year, and it can be used for any year. Miner's, also, has this peculiarity. Walsh's has space after the name for the street and number. It is printed on excellent paper, and is bound in beautiful red morocco. The Drs. Elmers' List has more reading matter than any of the others, and has also features that are not to be found in any other list with which we have ever met. It combines, in an admirable manner, both day-book and ledger. With all others a ledger is needed, but not with this one. It has also pages exceedingly conveniently arranged for various memoranda, with particulars. With it all, however, it is not bulky. We understand that copies can be had without the reading matter.

Every physician, whether practicing in city or country, should have a visiting list. Besides the convenience, it will be many dollars in his pocket. It will be an hourly reminder of neglected or forgotten charges, and, besides, tends to beget method.

A Treatise on Food and Dietetics, Physiologically and Therapeutically Considered.—By F. W. Pavy, M. D., F. R. S., F. R C. P., Lecturer at Guy's Hospital. Second Edition. 8vo. Pp. 402. . New York: Wm. Wood & Co. Cincinnati: H. L. Stacey.

This volume is the October number of "Wood's Library of Standard Medical Authors" for 1881, and is one of the most valuable of them. Pavy on Food and Dietetics has taken the position of an authority on the subjects of which it treats, and a copy of it should be in the library of every physician. Although to procure this publication it is necessary to subscribe for the "Library" for 1881, containing twelve volumes, yet in this manner each book sells at such an exceeding low rate, and the other eleven are so very valuable, that it would be an advantage for a physician desiring the work to become a subscriber for the whole Library of the year.

As the author rightly states, food is a subject of deep concern, both to the healthy and the sick. A physician who does not understand the qualities of the various articles of food, and is not more or less intelligent in regard to their preparation by cooking, is not qualified to practice medicine, for he is then ignorant of the first principles of the treatment of the sick. But unless he studies a work of the scientific character of Dr. Pavy's, what can he know except what he has learned from old ladies and the ignorant generally, whose knowledge in dietetics is on a par with their knowledge of disease and medicine generally? We hope that such of our readers who have not the work already will secure it, for we are confident that they will derive great advantage from its great store of information.

Essentials of the Principles and Practice of Medicine. A Hand-Book for Students and Practitioners.—By Henry Hartshorne, A. M., M. D., lately Professor in University of Pennsylvania, Professor in the Woman's Medical College of Pennsylvania, etc. Fifth edition, thoroughly revised and improved. With 144 Illustrations. 12mo. Pp. 669. Philadelphia: H. C. Lea's Son & Co.

Having noticed this work so many times, and so well known is it among medical students, that it seems to us scarcely necessary to say more in regard to it than to call attention to the fact that it has reached another edition—a fifth—and that in this edition it has been much enlarged and thoroughly revised. All through the work we find additional paragraphs containing additional matter. Of these there has been, it is stated, several hundred. A number of new subjects, especially upon the nervous system, have been written upon. Also new illustrations have been added, and an account is given of prescribing according to the metric system.

It is a work especially adapted for medical students in attendance upon medical lectures, who, during the brief periods they have for reading, have not the time to devote to reading the lengthy descriptions of the various diseases which are contained in works on practice prepared for practitioners. It has long held a first place as a textbook with students and young physicians, and, from the improvements which appear in this last revision, we feel sure that it will, for a long time, continue to maintain its position.

EDITORIAL.

PARTIES who advertise will consult their interests by advertising in a well-established journal—not one just commenced, nor one that has lived out its day of usefulness and is kept alive by occasionally buying up the subscription list of a defunct contemporary. It is better to pay a reasonable sum for space in a journal of large *bona fide* circulation than a very small sum in a journal of scarcely any circulation.

THE MEDICAL NEWS is the cheapest medical journal to advertise in of any medical journal in the West—not because it charges less per page, but because it has the largest circulation. Those who advertise in it usually continue their advertisements so long as they continue to advertise in any journal. In looking over the advertising form it will be observed that not a few of the advertisements have been appearing for years.

We hereby append the post-office law in regard to periodical publications. By noticing it, and keeping it in mind, hard feelings would sometimes be avoided:

UNITED STATES POSTAL LAW.—1. A postmaster is required to give notice *by letter* (returning a paper does not answer the law) when a subscriber does not take his paper out of the office, and state the reasons for its not being taken. Any neglect to do so makes the postmaster *responsible* to the publishers for payment.

2. Any person who takes a paper from the post-office, whether directed to his name or another, or whether he has subscribed or not, is responsible for the pay.

3. If a person orders his paper discontinued, he must pay all arrearages, or the publisher may continue to send it until the payment is made, and collect the whole amount, *whether it be taken from the office or not.* There can be no legal discontinuance until the payment is made.

4. If the subscriber orders his paper to be stopped at a certain time, and the publisher continues to send, the subscriber is bound to pay for it *if he takes it out of the post-office.* The law proceeds upon the fact that a man must pay for what he uses.

5. The courts have decided that refusing to take a newspaper and periodicals from the post-office, or removing and leaving them uncalled for, is *prima facie* evidence of intentional fraud.

OMISSIONS.—We have on hand a number of book notices, editorial articles, etc., which we are under the necessity of laying over.

We will mention here that not a few of our subscribers are still indebted to us for the present year's subscription, and some for a longer time. One more number of the MEDICAL NEWS closes the year. We insist upon all settling up. Our printer and all who do anything for us expect us to pay them; but how can we if we are not paid, unless we take money obtained from other sources than publishing the NEWS. A doctor who does not pay for his journal should not complain if he is not paid for his services. But those who are delinquent themselves are the ones who make the loudest outcry when not paid. Tit for tat does not hold good with them.

We design soon to place all delinquent accounts in bank for collection, if we do not hear from the parties.

IS GUITEAU INSANE?—At this writing the trial of the assassin of President Garfield has just commenced. The plea, in the way of defense, from what we learn, will be that the homicide is insane; and that, being insane, he was irresponsible, and should not forfeit his life as a penalty for the killing, although the one slain was the head of the nation. Ever since insanity has been recognized as a disease, by law, throughout civilized nations, it exempts from punishment for conduct for which the sane would be held amenable.

Penalties are both for the purpose of punishment of the criminal and to deter others from the commission of crime. But the infliction of the penalty would not be punishment in the case of a purely insane person, for such an individual, in committing an act held to be criminal, is not conscious of having perpetrated a crime. On the contrary, it not unfrequently happens he considers that he has done a very meritorious act if he has slain a fellow-human being or committed some other act. Under such circumstances, evidently, any penalty imposed, instead of being punishment, would be martyrdom. As regards restraining others from like acts by means of penalties, they would fail altogether in influencing the conduct of one who is *non compos mentis*. Experience has too often demonstrated that a person, who is not in the possession of his mental faculties, can not be deterred by fear. With such it but seldom acts as a motive power. Ever since the rise of Christianity, its believers have been taught—Protestant and Roman Catholic—that self-murder—suicide—is an unpardonable sin; and, consequently, whosoever destroys his own life will lose his soul, or, in other words, bound in everlasting chains, will suffer the torments of perdition forever. Yet it is of common occurrence for priest, and minister, and others known to have led for years most pious lives, to become suicides after having lost their reason. It is thus seen that insanity is capable of eradicating all fear, and of destroying the strongest instinct in man—the instinct of self-preservation.

One of the lower animals, as a tiger or lion, is killed for destroying a human being, but not in the way of inflicting a penalty for murder, but for the object that, so far as it is concerned, there may be no danger of other persons being killed. The beast, after it has killed, has no sense of crime, for it does not know what crime is. Nor can it have any feeling of guilt. It destroys life whenever it has an opportunity, simply for the reason that it is in accordance with a law of its being, and this law will be fulfilled in it the same as the laws are fulfilled which govern in the growing of a plant. But as we are not bound to one of the lower animals by any community and fellowship, and as we are under no obligations, compared to what we are to a fellow-being, to respect its life, we choose the most direct and safest mode to protect ourselves against its ferocity, and, therefore, shoot it down when we find it roaming at large. But such a procedure in the case of a human being would be the greatest inhumanity.

It has not been many years since mental physiology and pathology became so developed as to give us something like correct notions in regard to the responsibility of insane and weak-minded persons. Up to comparatively a few years ago, many poor, unfortunate beings, irresponsible for their acts, and no more conscious of crime than a little child would be who did not know what was meant by crime, and consequently could feel no guilt, ended their lives on the gibbet; but now, thanks to the progress of psychological knowledge, more correct ideas obtain, and, although there may be a tendency, and probably there is, to too greatly extend the limits of irresponsibility, and consequently permit many criminals to escape the penalty of their crimes, yet it is better that that should sometimes result than that a heinous act of cruelty be perpetrated by enforcing the extreme penalty of the law upon a poor, unfortunate, insane one whom a providence has deprived of reason.

Insanity may involve, more or less, all the faculties of the mind, or it may be only partial; *i. e.*, a person undoubtedly unsound in mind, as regards some of its functions at least, may yet be able to reason quite correctly upon most subjects. Such an individual we call a monomaniac. The editor of the *Medical Record* says that he has that form of monomania which has been described by the Germans as primare *Verrucktheit.* He defines it as a disease "in which deluded opinion forms the striking feature, though delusion is not always present, while there may be with it some perversions of the emotions, or some illusions, simple or transformed." He then quotes from Spitzka (St. Louis *Clinical Record,* December, 1880), who says that "the general intellectual status of these patients, though rarely of very high order, is moderately fair. A monomaniac is frequently crochety, irritable and depressed. He concludes that he is a personage of some importance. Some great political movement takes place, he throws himself into it, either in a fixed character that he has already constructed for himself, or with the vague idea that he is an influential personage. He seeks interviews, holds actual conversations with the big men of the day, accepts the common courtesy shown him by those in office as a tribute to his value, is rejected, however, and then judges himself to be the victim of jealousy or of rival cabals, makes intemperate and querulent complaints to higher officials, perhaps makes violent attacks on them.

This description shows very well what are some of the occasional phases of monomania; and, as the *Record* says, though written in 1880, over six months previous to the time of the murder of the President, corresponds curiously with the actions of Guiteau. But actions, it goes on to state, almost similar may be performed by perfectly sane men. "They do not prove insanity, but are simply liable to form a part of the clinical picture of one form of that disease."

The history of Guiteau exhibits undoubtedly a hereditary taint of insanity. An uncle and two cousins have been insane. If we recollect rightly, he has at this time one or more relations in an insane asylum. His father at one time exhibited an unbalanced condition of mind by leaving his friends and joining the Oneida community, and Guiteau himself was with them for several years—we believe six—and was compelled to leave them in consequence of some peculiar conduct, which we now do not remember. During his whole manhood he has wandered about the country with seemingly no settled purposes, representing himself as a preacher, lawyer, politician and author, exhibiting no derangement of the intellectual faculties particularly, but showing a disordered state of his emotive functions by his moral perversity. His egotism and self-conceit at all times were disgusting; he never seemed to feel any obligation to repay money borrowed, and accepted any favor done him as a matter of course, without seeming to feel any indebtedness for it; he appeared incapable of shame.

It is mentioned in the New York *Record* that in his lectures, for at times in his vagary he assumed the role of a lecturer, at which he was unsuccessful, he defended a seeming delusion in regard to the second coming of Christ, which he asserted took place in the year '70 at the time of the burning of the temple. But this may not have been a real delusion, but may have been an actual notion, founded upon insufficient data, or a pretended belief for the purpose of notoriety. It is a common experience to meet persons of unbalanced minds, self-conceited, to advocate outlandish views apparently for the purpose of making themselves prominent and to obtain notoriety. We can not, however, regard such as insane. They are undoubtedly responsible for their conduct, when it comes to the commission of crime; but we do not expect from them dignified behavior, or to hold reasonable views upon any subject.

Such an individual as Guiteau, irrational, vain, silly, without moral principles, having no definite purposes in life to guide him, we would expect, when deeply wounded in his conceit, to harbor the most intense hate, and nourishing this feeling from day to day by pondering over his supposed wrongs, for he would view contempt for himself as injury, he would be apt to devise means for revenge, and seek opportunities for accomplishing them. In such cases only fear deters; for persons of the kind have no moral scruples, and are only held in restraint by cowardice. In this respect there is a marked contrast between them and the really insane, who know no fear. Guiteau, since he has been under apprehension, has shown at times the most abject fear and contemptible cowardice, although he plays the bully, threatens and browbeats whenever he is not in fear of bodily harm. During the two or three days his trial has been going on, he has bullied his attorneys, demanding them to give up his case, saying he could conduct it better himself, as he is an experienced lawyer, who has practiced law in Chicago and New York, when, it is known, he never had a case intrusted to him, and he never did any legal business higher than to collect bills, the proceeds of which he always kept, never paying the money over. Again and again, too, he has had the audacity to bully even the judge on the bench, and been guilty of many other acts of extreme insolence. In bravo manner he has threatened to appeal to the nation, as if the people were in any other way solicitous about him than that he should be hung for his infamous crime. Such conduct, he imagines, under the circumstances, will make him notorious, which, to his low order of intellect and feelings, is synonymous with fame. And for a notoriety that would be world wide, he would probably even be willing to die, notwithstanding his miserable cowardice; especially when he would hope that there would be attached to it the notion that he was a hero, who had brought about a revolution in the country, having pulled down the exalted and elevated the humble, and who had displayed unheard of courage during his trial.

But as our time is too short to discuss at length, at the present time, the subject of Guiteau's insanity, we have thought we would quote at length the opinion of Dr. Allan McLane Hamilton, who is widely known as an authority on nervous diseases, and is consulting physician to the State Insane Asylum at Poughkeepsie. He regards Guiteau as belonging to a larger class of persons than most people suspect the existence of. He says he is a subject of the "insane neurosis" of Maudsley, or insane temperament.

We have no doubt our readers will be greatly interested in the remarks of Dr. Hamilton. He proceeds to say that this matter of insane neurosis is one of a wide bearing, which deserves more attention "from physicians and from fathers than it has yet received. It manifests itself in different ways. In ninety-nine cases out of one hundred it leads people to nothing more than harmless eccentricity or hypochondriasis, and frequently is never noticed at all unless by some physician interested in such matters. The importance of recognizing the gravity of the subject is imperative, but the recognition of the insane neurosis is no new thing. Maudsley gives it prominence, and in his works calls attention to its latent evidences in a large number of persons.

"To define exactly in what consists an insane temperament is not easy. Perhaps it might be said that the mind of such a person is neither sound nor sick. It is in a condition when judicious treatment will restore its powers, and prevent the development of peculiarities; or injudicious treatment aggravate the trouble until pronounced insanity may ensue.

"For instance, a child may fly into a passion whenever it is laughed at, or commit some purposeless, vicious act. The weak point in its mind is evidently hereditary, and some over tender moralists might say that as such the child is no more responsible for the weakness of flying into a passion when laughed at, than an idiot is to be blamed for not being able to reason. It should be tenderly counseled. Nevertheless, the right treatment is to overcome by rigid discipline the peculiar eccentricity in the child at once, for the child's sake, for society's sake, and for the sake of the child's children. It may be, and doubtless is, a fact that thousands of children who have had some such weakness have grown up without a conspicuous trace of insane heritage about them, it having been rubbed out, or has died out for want of proper environment for an unhealthy growth. But it might have been otherwise, and developed into that form of ungovernable rage or egregious vanity which some eccentric persons exhibit at times to the extent of taking the law into their own hands to the injury of society, or murdering a President; such eccentricity is characterized by emotional changes and moral dullness, but intellectual strength is marked, though diverted into curious channels. Buckwell and Tuke spoke of this class as follows:

"The eccentric man of the second class deviates from the ways of his fellow-men from weakness of judgment, from love of applause, and desire of drawing upon himself the attention of others. As a rule, however, a large proportion of the persons who become laughing-stocks on account of absurd vanities, or who become troublesome to their friends or the public on account of absurd scheming or ridiculous behavior, will be found to have intellectual powers of a low order, a great desire for approbation and little individuality. The eccentric tendency is seen among a large number of people. When it is strongly enough marked to attract general attention, especially if the eccentricities of such persons are of an unpleasant character, he is forgiven because he is weak, and avoided because he is vicious. Is such a person insane?

"By no means, more than the man who, born with a tendency to alcoholism, gives way to his appetite, which in the beginning he might control, but which afterward leads to the gratification of his craving, and the commission of crime in a drunken craze.

"In the case of Guiteau there is nothing to show insanity as a disease either in his previous vicious career or in his last atrocity, and as far as delusions are concerned I can not see that even if Guiteau really believed God wished him to kill Garfield, that 'the Lord and I did it,' as he says, it will constitute a delusion. Many men believe that God wants them to build a church, or found a hospital, and they do it, and are not considered insane. If Guiteau had said he talked with God, and God had told him to kill the President, that would be a different matter. Looking at Guiteau's case in the light of what we know of his past, and what he has written in the shape of confessions and addresses to the court and public, I can not see that his case differs greatly from those of several other men who have committed crimes simply for the notoriety of the thing. The more vicious the person, the more atrocious the crime. To sum up Guiteau's case, I should say that he was not insane upon the following grounds: That while of insane temperament, probably hereditary, he is intelligent enough to know the difference between right and wrong, and the consequences of his act, and had sufficient mental capacity to control himself. I have read some of his political and religious speeches, and find full evidence of this in them, although at the same time it must be borne in mind that an intelligent speech is no proof of the author's sanity, because I often hear as brilliant talk inside mad-houses as I do outside of them, and Guiteau was not sane the day he wrote these addresses, and insane the day he shot the President. He did not shoot in a fit of homicidal rage, such as we see in some dangerous lunatics, nor under the influence of an all-absorbing delirium.

"His conduct since his arrest shows no signs of insanity, but points unerringly to the conclusion that he is one of that large class of vicious, but perfectly responsible, persons whose disregard of the decencies of life and diseased vanity should have been stamped out by wholesome discipline long ago. Herbert Spencer is perfectly right in saying that with many children punishment is the only true method and kindness the mistaken one. Spencer says that if any young child bites or inflicts physical pain, it should be made to feel pain of the same character. Misdirected intellectual correction is often useless, but one or two wholesome lessons given to the viciously inclined child will avert much subsequent suffering. Vicious persons, whether adults or children, I believe, should be punished in proportion to their misdeeds.

"Had Guiteau been properly trained in childhood and early youth, the insane neurosis with which he was born might have led to nothing criminal, or might have been smothered as in thousands of other cases. We have records of cases in which several years of discipline have made excellent men and women of the child vicious beyond conception, who, if allowed to go on, would have ended in mad-houses, after the commission of some particularly horrible crime. It is not at all impossible that if Guiteau is allowed to live, he will die in a mad-house, for his form of eccentricity gains strength with age and indulgence. His success in escaping the gallows will also have a pernicious effect upon other cranks like himself, just as in a school when one boy goes unpunished, others take courage and plunge into all sorts of mischief. Bad, vicious conduct may just as well become chronic as good conduct. It is a matter of temperament and training, the latter being of more importance than the first. He found all his life that people would not punish him for petty swindling or for gross immorality, and he went on from bad to worse simply because he was not stopped before."

INHERITED SYPHILIS.—A very interesting article thus entitled appears in a recent issue of the *Proceedings of the Medical Society of the County of Kings*, by H. W. Read, M. D. The writer quotes the law of Colles: "That a child with inherited syphilis will never infect its own mother, though it can infect a healthy wet-nurse."

"Since this law was enunciated," says Dr. Read, "forty-three years ago, no authentic exception to it has ever been recorded among the immense number of cases observed. It may, therefore, stand as proved. Now, if it can be shown that the mother of a syphilitic child can not only not be infected from her offspring after birth, but *from no other source*, the case stands proved." He then states that no case has ever yet been reported of a woman bearing a syphilitic child, who was *ever afterward* infected with syphilis *from any source.*

He says, however, that the statement does not stand on a level with "Colles' law," and will require years of observation for proof; but no exception to it has ever been noted. "Caspary attempted the only positive solution of the question. He found a seemingly healthy woman with a syphilitic husband and a syphilitic child. *He inoculated the woman with the secretion of syphilis without effect.*"

As proof on this point Dr. Read relates the following case in his own practice:

"E. H., a healthy nurse maid, sixteen years old, became pregnant by her employer, a gentleman who had contracted syphilis several years previous to this event. She continued well and strong during her pregnancy, and was delivered at full term of a fine-looking child, which, however, at five weeks showed roseola mucous patches and snuffles. It was treated and recovered, had two relapses, from which it also recovered under anti-syphilitic treatment. The mother showed no signs at any time of syphilis, at least none that could be detected.

"Nearly three years after the birth of her child, she was married to a young man, whom she brought to me for treatment about three weeks after her marriage. I discovered a hard chancre on the frænum of his penis, which he assured me appeared only ten days before his marriage, and of the nature of which he was unaware.

"He afterward acknowledged to have had impure connection with a woman of the town some weeks before the appearance of the chancre.

"He had had repeated connection with his wife, but a careful examination of her showed neither chancre, mucous patch, nor anything abnormal. The husband afterward had secondary trouble severely, but the wife, though she has twice aborted, has never shown any symptoms of specific disease, now some sixteen or eighteen months since her marriage. This case may, I think, be regarded as strong evidence.

"The woman was repeatedly exposed to the virus of the chancre, with perfect impunity. Neither before nor since marriage has she ever shown a symptom of syphilis, though always under observation and repeatedly examined."

In another part of the article the author asks the question, "Can a healthy woman have a syphilitic child? or, in other words, Is not a woman who has a syphilitic child necessarily in some degree syphilitic?" He replies affirmatively to the question; and, in still another place, makes the statement that every mother of a syphilitic infant is affected with a variety of the disease, which may or may not be accompanied by secondary or tertiary lesions, but which is *protective* against another attack. He says that Mr. Hutchinson recognizes this fact in the distinction which he makes between "blood syphilis" and "chancre syphilis." He is emphatic, therefore, in his conclusion that a woman bearing a syphilitic child can never *afterward* become infected with syphilis *from any source.*

An exceedingly interesting fact is, if it actually be a fact, which Dr. Read quotes from Diday, Ricord, Cullerier, and Colles, and which we have seen mentioned by others, that women having had syphilitic children by syphilitic husbands (themselves remaining free from any symptoms of the disease) have born syphilitic children to *a second husband* who was an *entirely healthy man.* How such a phenomenon, for we do not know how else to term it, can occur, it is difficult to determine. In some way, we presume, if it be a fact, which we do not believe, the disease must lie dormant in the woman's system, but existing there. It is remarkable, though, that when awakened to activity by a second pregnancy, and it a healthy one, its force should be limited to the fœtus, and not be manifested in the mother.

If it should be true, as thus stated, there would be room for charging Nature as acting unjustly, in that penalties were entailed upon innocent parties. We could admit the justice of children, to the third and fourth generation, suffering for the sins of their progenitors, but we can not see the righteousness of entailing vile and terrible diseases upon children, for the offenses of those who are not their fathers. Although Nature is often exceedingly severe in the way of penalties for the infraction of laws, and is no respecter of persons, yet when we come to study the laws, and trace the design exhibited in them, and the necessity of their observance for its complete fulfillment, we generally have to admit their justness, and very often to conclude that, if our understandings were enlarged, their righteousness would be still more evident. Although many will be disposed to reject any reasons to determine pathological questions, which they regard as smacking of theology, yet, in this instance, we are disposed to disbelieve that a child can have syphilis entailed upon it, through its mother, by a man who is not its father, for the reason, if no other could be adduced, that, if it were the fact, it would be inflicting a cruel wrong. We, therefore, must withhold our belief until more proof can be adduced in evidence, that a man who marries a woman who has begotten a syphilitic child by a previous syphilitic husband, she herself never exhibiting any symptoms of the disease, is liable to have born to him a child having syphilis.

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KIDDER & LAIRD:

Gentlemen—The physicians have used it in prescriptions, and think it a valuable preparation, and as good as they ever saw, and will give it the preference in their practice. I have been using Hawley's for the last five or six years. Yours, etc.,

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SULLIVAN, IND., July 11th, 1878.

KIDDER & LAIRD:

Gentlemen—I have prescribed your Saccharated Pepsine, and recommended it to several physicians, who have used it and pronounce it a first-class article.

Respectfully yours, H. MALOTT, M. D.

WATERMAN, IND., July 19th, 1878.

KIDDER & LAIRD

Gentlemen—I have ascertained from three doctors in my neighborhood that your Kidder's Saccharated Pepsine is a better article than some of the more expensive preparations. Yours, etc.,

OLIVER LA TOURETTE.

LOUISIANA.

DELHI, RICHMOND PARK, LA., March 20th, 1878.

KIDDER & LAIRD:

Gents—When in need of Pepsine will always order Kidder's in preference to all others, as I like it best.

Yours very respectfully, E. W. THOMSON.

MANSFIELD, LA., Jan. 31st, 1878.

KIDDER & LAIRD:

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R. T. GIBBS, M. D.

MARYLAND.

ANNAPOLIS, June 20th, 1878.

KIDDER & LAIRD

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J. F. PERKINS & BRO.

BALTIMORE, June 19th, 1878.

KIDDER & LAIRD:

Gentlemen—I am using Kidder's Saccharated Pepsine with a great deal of satisfaction. I tested it with Scheffer's, and could not detect the least difference, and, in consequence, have had a number of pounds of yours, purchased from Thomsen & Muth.

Yours, etc., ISAAC R. BEAM.

BALTIMORE, June 19th, 1878.

KIDDER & LAIRD:

Gentlemen—Your Kidder's Saccharated Pepsine appears to be all you claim for it. I have not bought a grain elsewhere since I commenced using yours.

Yours, etc., C. A. GOSNELL.

BALTIMORE, MD., June 20th, 1878.

KIDDER & LAIRD:

Gentlemen—Your Kidder's Saccharated Pepsine has given good satisfaction. It is all you claim for it. Will hereafter use none but Kidder's.

Yours, etc., A. C. HUTHWELKER.

181 LEXINGTON ST., BALTIMORE, MD.

KIDDER & LAIRD:

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Yours, etc , H. C. MOORE, M. D.

BALTIMORE, June 21st, 1878.

KIDDER & LAIRD:

Gentlemen—I have used Kidder's Saccharated Pepsine alongside Schefler's, Boudault's, and others, as ordered, and have no reason to believe yours below the standard.

Yours, etc., JOHN SCHWARTZ.

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Each dose of two teaspoonsful, equal to 120 drops, contains:

Pure Oil	**80 m. (drops).**	**Soda**	**1-3 grains.**
Distilled Water	**35 "**	**Boric Acid**	**1-4 "**
Soluble Pancreatin,	**5 grains.**	**Hyocholic Acid**	**1-20 "**

Dose —Two teaspoonsful alone, or mixed with twice the quantity of soft water, to be taken thrice daily with meals.

The principles upon which this discovery is based have been described in a treatise on "*The Digestion and Assimilation of Fats in the Human Body,*" by H. C. Bartlett, Ph. D., F. C. S., and the experiments which were made, together with cases illustrating the effect of Hydrated Oil in practice, are concisely stated in a treatise on "*Consumption and Wasting Diseases,*" by G. Overend Drewry, M. D.

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☞**Copies of these valuable works will be sent free on application.**

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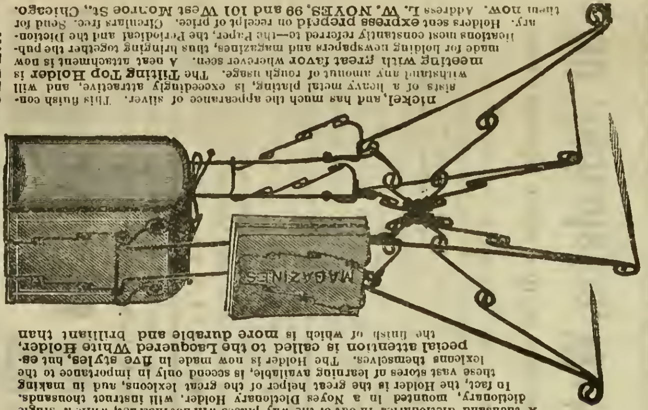

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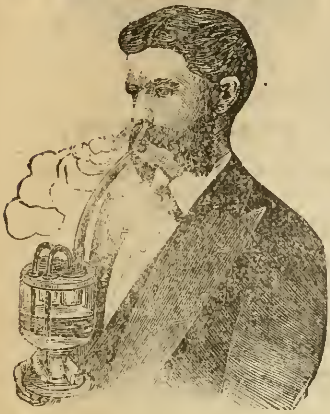

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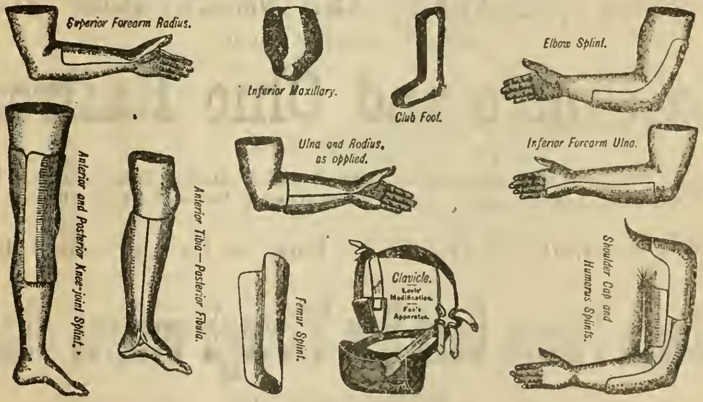
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Speaking of **HORLICK'S FOOD:** "Being carefully prepared, according to Liebig's Formula, by Chemists fully competent, it possesses certain advantages, such as quick and easy preparation and a pleasant flavor, and is therefore highly esteemed by those who have used it." [*Page* 58 *of the fourth edition of a Treatise on Diseases of Infancy and Childhood. By J. Lewis Smith, M. D., etc.*—1879] Also, speaking in another place [page 647] of artificial food for infants, especially those suffering from intestinal catarrh, he says: "I prefer Liebig's, especially **HORLICK'S** preparation of it."

Report from Bellevue Hospital, New York.

In *The Hospital Gazette* for February 6th. 1879 [page 108] Dr. E. Hochheimer makes a report from BELLEVUE HOSPITAL of a case of Infantile Paralysis, which was followed by an exhausting diarrhœa—Speaking of the treatment, he says: "Her condition continued unchanged for the next three weeks; she was put upon a diet consisting principally of milk, but the diarrhœa persisted in spite of opiates and astringents."

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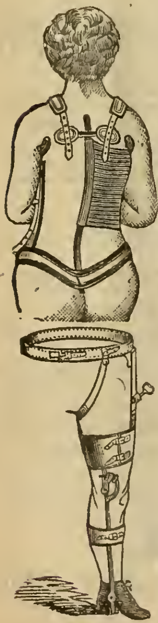

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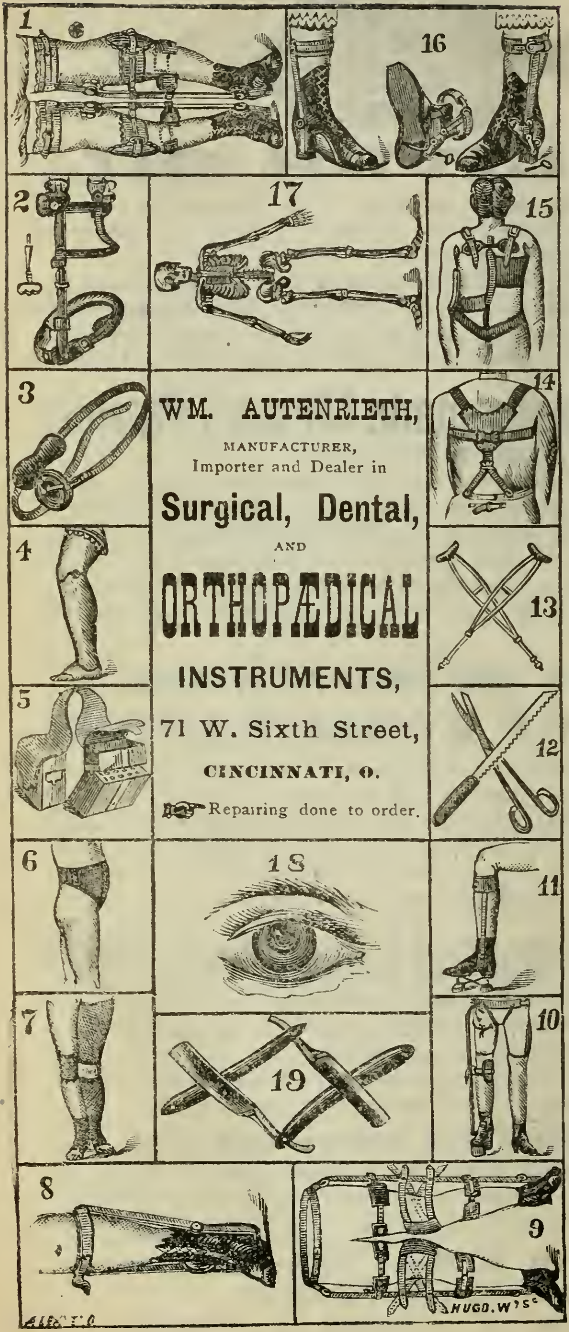

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